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THE UNIVERSITY OF ALBERTA
A CLINICAL STUDY IN
LEARNER-CONTROLLED FOREIGN LANGUAGE INSTRUCTION

by



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An Abstract of
A CLINICAL STUDY IN
LEARNER-CONTROLLED FOREIGN LANGUAGE INSTRUCTION

This thesis represents an attempt to apply the technique of Learner-Controlled Instruction to foreign language material. Three subjects were given from 20-30 hours of individual instruction in Ukrainian using this technique and data were gathered and analyzed regarding preferred learner-generated strategies and learning sequences. Applications of this technique in the school system are discussed, as well as further suggestions for research.

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INTRODUCTION

Hitherto the emphasis on learning throughout our educational system has been geared to instructor-generated sequencing of learning material, that is, to programs of instruction devised by educators who have all but forgotten the needs of the most important people involved in the process of learning, the learners themselves. As a consequence it often seems that a good deal of time and effort are wasted both for the learner and instructor during the course of learning carried on in the conventional classroom. The basic premise of this thesis is that much valuable information can be gained towards the resolution of this problem through the study of learner-generated as opposed to instructor-generated sequencing of educational material.

Since the appearance of Mager's original papers (1961) on the subject and the commentary provided in Psychological Reports, 1961, 9, pp. 405-413, the concept of Learner-Controlled Instruction (LCI) has received surprisingly little attention in the published literature, and has made virtually no impact on foreign language teaching at all. It is the purpose of this thesis to follow up on Mager's exciting initial studies in the hope of establishing the value of Learner-Controlled Foreign Language Instruction as both a pedagogical and research technique of considerable potential.

This thesis was prompted initially by Robert F. Mager's (1964) article, "Learner-Controlled Instruction - 1958-1964," and the procedures I have adopted are patterned directly upon those which he employed in the study of sequencing instructional events. Mager and his co-workers came upon the LCI technique in the course of exploring the programing techniques described by Crowder and Skinner. In their attempt to tailor instruction to individual students it seemed to them that the student himself might be a source of significant input to the sequencing decisions. Thus, in order to learn about learner-generated sequencing and consequently weigh the advantages of instructor-

controlled sequencing as opposed to learner-controlled sequencing, the LCI technique was introduced. By following this technique a learner-generated sequence could be studied by putting instructional facilities under the complete control of the student and observing his behavior. In the course of utilising this research technique for purposes of sequencing material for programmed learning it became apparent to Mager and his associates that the technique might also be feasible as an instructional method.

One goal of this study was to ascertain whether a language student can learn effectively if left almost exclusively to his own devices. This point, at least, was established. There can be no doubt that all three subjects involved made very efficient use of the instruction time available to them. If educators were to use as a guideline the implications of this preliminary study supplemented by further research along these same lines, it is believed that a more efficient job of the learning-teaching process might be accomplished.

The primary research question broached by this thesis is as follows: How would an adult learner go about learning a second language if he were free to decide for himself? We found that during the course of our inductively orientated study that the learners' activities fell naturally into a small set of more-or-less clearly definable categories related to the type of activity in which the subject was engaged at any particular time and to the type of subject matter with which he was chiefly concerned. After repeated adjustments and revisions in the light of new data from different subjects a taxonomic framework eventually evolved in which all subject activities could be satisfactorily categorized. Analysis of our data gives us an insight into the mechanics (activities and subject matter) of the process by which a learner learns under his own initiative and allows us to draw certain tentative conclusions about the nature of such a learning process.

Basically, our analysis and conclusions are organized into four major areas: (1) What is the nature of the learner-generated sequence in the study of foreign language material? (2) Do the learner-generated sequences differ in any significant way from any of the standard instructor-generated sequences for teaching this same sort of material? (3) Is there any significant commonality among sequences generated by different learners? (4) Is the learner-generated sequence any more effective than the instructor-generated sequence?

In view of the fact that we have been able to draw a number of highly suggestive (albeit tentative) conclusions in all of these areas even from this small preliminary study, we are inclined to believe that the technique of LCI opens up a broad new and promising vista for research in the areas of language learning and language teaching.

PROCEDURE

The subjects

To study the LCI technique as applied to the task of language learning, a procedure patterned on that of Mager and associates was followed. The subject matter to be learned was the Ukrainian language. The subjects, three adult students who volunteered to participate in this experiment, had individually expressed the desire to learn Ukrainian so thereby were naturally motivated to carry out their part of this study. Each subject's background and motivation is important for the bearing they have on the trend of questioning and personal learning strategy during the learning sessions and for the realization or achievement of their goals.

We include here brief profiles of each of the three subjects:

Miss G, or Subject G as she shall be referred to, whose native tongue is English, had a background of seven years of high school and university French and four years of university Russian. She came to this study with an expressed interest in learning Ukrainian, stating as her reasons for taking part in the study as follows: 1) she felt it would be interesting to compare Russian and Ukrainian 2) she lived in an area where Ukrainian is spoken and 3) she liked the idea of the way it was to be taught.

Mr. S's (Subject S) native tongue is also English. He intimated that he could not carry on a conversation in Ukrainian but knew the "occasional word" as his Ukrainian-speaking relatives were always "throwing a word" at him and "popping questions" to him. He also said that he had tried to learn the alphabet at one time, but didn't get too far with it. When asked his motives for participating in this study, Subject S replied that he would like to reach the point where he was able to know what a Ukrainian group of people was speaking about and to be able to carry on a conversation with them.

He indicated that he was not at this point interested in learning the script (orthography) of the language.

The third subject, Miss Z (Subject Z), has as her native language, Serbo-Croatian, as her second language, English, and two years of university Russian. Subject Z volunteered to take part in this study because she wanted mainly to learn to read and write and understand the language. She wished also to spend time where needed on correct pronunciation, but this was secondary to her other purposes. One can see, then, that the three subjects came to this study with greatly diversified backgrounds and motives but with one important goal in common - to "learn" Ukrainian.

Procedure

The subjects were told that they would have approximately twenty hours of instruction. The number of instructional hours per week could not be kept completely uniform among the three subjects, as each subject found a schedule suited to his own needs. However, each student had at least one hour's instruction per week and, in most instances, more. They were also told that they would control the method and length of time of instruction within these periods. At their disposal they had a teacher and whatever items they deemed necessary to meet their learning needs.

Each session was tape-recorded. This enabled me, the teacher, to devote my entire efforts to the subject's needs. Furthermore, each session was transcribed verbatim. The system used for the transliteration of Ukrainian is taken from The Slavic and East European Journal, Spring 1968, Vol. XII, No. 1. (see Appendix) These transcriptions are available to the reader for further reference and comprise an important part of the thesis data.

The transcriptions

The following guide will facilitate the reader in reading transcriptions of the sessions, excerpts of which will be referred to frequently in this thesis. The subject's utterances appear in quotation marks. The teacher's utterances (indicated by a series of dashes), because they are relatively unimportant as data for this thesis, are provided only where needed to give clarification to the trend of questioning. Notations explaining the context of questioning are indicated in parentheses. For reference purposes, any specific examples or excerpts taken from the transcriptions will be preceded by the initial of the subject's last name, the number of the day (session), and the page number of the excerpt referred to. If it should happen that there is more than one sentence in an illustrative example, the key sentence will be underlined to avoid confusion.

To illustrate:

(Z-I-1) "Feminine, masculine, and neuter, do they have regular determinable endings?"

----- Feminine has hard, soft and mixed.

Often a sound, word, phrase or sentence of a subject's utterance will be underlined and marked with or followed immediately by the notations C, R, or W or a combination of any three enclosed in parentheses. The W indicates "writing" which means that the student has written the underlined word or sequence in Ukrainian. The C indicates a correction by the teacher or another attempt at the correct form by the student, and the R stands for a repetition or some form of reinforcement on the part of the subject.

An example:

(Z-III-8) "'Danylo (R) žyve (R) na ostryvi (C).'"
(W-C R) (W-C R) (W-R)

A full interpretation of the above excerpt would read:- The excerpt is found in Subject Z's transcriptions, session III, page 8. The C following the word 'ostryvi' indicates that

subject Z, upon uttering the incorrect form, was corrected with the right form by the teacher. The R both after 'Danylo' and 'žyve' indicates a repetition of these words by the subject. The W in all three cases indicates the subject's attempt at the written forms of these words with the C in these cases indicating that the attempt was incorrect and the R showing that the attempt was either corrected by the subject on his second attempt or with the teacher's assistance.

Subject Z, on her own initiative, used C. H. Andrusyshen's Ukrainian-English Dictionary to study the Ukrainian alphabet and upon request for a suggested grammar text, J. W. Stechishin's Ukrainian Grammar. Subjects G and S made no requests for books as such.

DATA

Method of compilation

The data of this study manifests itself in two forms of learning activities on the part of the subjects, that of "new learning" of subject matter and that of "reinforcement" of subject matter previously introduced. I shall also refer to the activity 'New Learning' as one of questioning (questions), as the student always looks to the teacher for confirmation of information, even though he might have on occasion deduced it himself. As opposed to the general activity 'New Learning', 'Reinforcement' of subject matter will always refer to repetition by the teacher (C) or by the subject (R) of information previously elicited or uttered by the subject.

On this basis, then, subjects' new learning and reinforcement of subject matter was categorized on an ACTIVITY vs. SUBJECT MATTER matrix (a 2-way classification scheme), tabulated, and an overall picture drawn up in graphical form.

Learning activities were divided into two main groups:

1) New Learning and 2) Reinforcement. 'New Learning' in turn was sub-divided into four sub-groups: (i) Hypothesis Testing, (ii) General Information, (iii) Contrastive Information, and (iv) Explanation. The activities 'New Learning' and 'Reinforcement' always draw on the same basic subject matter, which is the target language, Ukrainian, but which can usefully be analyzed in terms of the following five sub-categories: (i) Vocabulary, (ii) Morphology, (iii) Syntax, (iv) Pronunciation, and (v) Orthography.

For practical reasons it was found necessary to limit the interpretation of each of the subjects' questions and subsequent reinforcement of acquired material to one single categorization per response, according to my assessment of the basic intent of the activity. In many instances subjects' levels of achievement at given points of the study had to be considered in order to best assess the basic intent of some questions.

The taxonomic framework

Examples of each category along with explanatory notes are now indicated.

I New Learning.

A. Hypothesis testing:-

1. Hypothesis testing about vocabulary.

Type (i). The subject analogizes about a new word on the basis of other words in the language. Here, as in all cases of hypothesis testing, the subject needs verification from the teacher.

(S-II-5) "'hand'?" (The subject is eliciting vocabulary.)

----- 'ruka'

"'feet'?"

----- 'nohy'

"'foot'?"

----- 'noha'

"'leg'?"

----- 'noha'

"'arm'?"

----- 'ruka'

"I suppose 'fingers' and 'finger' would be 'ruka'?"

(I had explained that 'arm' is the same word as for 'hand' - 'ruka'.)

This last response (underlined) only is categorized as a hypothesis test about vocabulary.

Type (ii). The subject makes generalizations about lexical selection.

(S-IX-10) "'Where is your mother and father?'" (The subject elicits a translation.)

----- 'De tvoji rodyči?' (I give him the word for 'parents'.)

"I could say, 'Where are your parents?' It wouldn't change it?"

2. Hypothesis testing about morphology.

Type (i). The subject offers a novel form in the target language which he has formed on the basis of a morphological analogy.

(S-IV-5) "'twelve'?"
 ----- 'dvanadcjat''
 "'trynadcjat'?"
 "'čotyrnadcjat'?"

Type (ii). The subject recognizes a morpheme in a novel form.

(S-IV-3) ----- 'najblyžčocho' (This is the genitive form of 'nearest'.)
 "That's not 'why'?" (The word for 'why' is 'čocho'.)

Type (iii). The subject recognizes a morphological process.

(S-VIII-6) "There's a small change in it." (The subject has recognized the differences in the past tense endings of 'hovoryv' and 'havkav'.)

Type (iv). The subject hypothesizes about morphological forms.

(Z-VII-13) "That '-ovi' ending is genitive, is it?"

3. Hypothesis testing about syntax.

Type (i). The subject formulates a novel phrase or sentence.

(S-IX-12) "If somebody asked me if I had the keys I could just answer, 'Ja maju'?"

Type (ii). The subject translates a phrase or sentence spontaneously from English to Ukrainian or vice versa.

(Z-II-4) "'Ja sluxaju, al'e ne čuju.'" (The subject reads from the grammar text making an error in the word 'ale'.)
 "I listen, but I don't hear?" (This is her translation.)

Type (iii). The subject induces a novel syntactical rule.

(Z-IX-11) "To complete something (a verb) you don't have 'budu' in the future (tense that is)?" (The subject has deduced that the use of the auxiliary verb 'buty' along with the imperfective infinitive forms the imperfect future tense.)

Type (iv). The subject employs his knowledge of syntax to draw a novel conclusion.

(Z-II-8) "'Vin je mij susid.'" (The subject is reading from the grammar text.)
 "'Je' means 'is', is that right?"

4. Hypothesis testing about pronunciation.

The subject draws a conclusion about pronunciation.

(G-XII-3) "I notice you don't say 'mjasa'." (This form is pronounced 'mjaso'.)

"The unstressed vowel doesn't change, right?"

5. Hypothesis testing about orthography.

Type (i). The subject attempts dictation exercises in which each word is considered an attempt to spell a novel form.

(Z-I-10) "Maybe now you could give me some simple sentences, like 'How are you?', etc.?" (The subject writes at the board.)

Type (ii). The subject writes randomly selected words upon hearing them from the teacher.

(G-V-1) "Have I spelled this right?"

Type (iii). The subject reads words or sentences aloud with the aim of testing his or her knowledge of the alphabet.

(Z-II-2) "'ja', 'ti', 'vin' (2R), etc." (The subject is
 (C R)
 reading from p. 4 of the grammar text.)

Type (iv). The subject induces a fact about spelling-sound correspondences.

(G-I-2) "'v' is usually[w] in the middle of a word?"

(The subject is referring to the pronunciation of the word 'lavka'.)

B. General information:-

1. General information about vocabulary.

Type (i). The subject elicits the lexical meaning of a word.

(Z-II-13) "And 'snidaty' is what does that mean?"

Type (ii). The subject inquires about the semantics of a word.

(S-I-7) "'Svitlo', that's 'light', isn't it?"

"Is that just 'light', or is it 'a light bulb', 'lamp' ?"

Type (iii). The subject guesses the meaning of a Ukrainian word on the basis of its position in relation to the English word in the sentence. He is essentially asking for the meaning of a word.

(S-IV-6) "'The cows are in the north field?'" (He asks for a translation.)

"'Field' is 'polju'?"

Type (iv). The subject wants information about "groups" or "classes" of words.

(Z-III-14) "For example, some of these words you don't use in ordinary language? For example, this 'oboz'?"

(The subject wants to know if certain words in the vocabulary lists are commonly used.)

Type (v). The subject wants the meaning of a stock expression.

(G-I-1) "'Hello'?" (She wishes a translation.)

2. General information about morphology.

Type (i). The subject asks for specific morphological forms.

(Z-IV-9) "How would you conjugate[sic] 'škola' in plural?"

Type (ii). The subject elicits general morphological information.

(Z-I-6) "You mentioned there is a distinction between animate and inanimate. You mean in declension?"

3. General information about syntax.

Type (i) The subject elicits a translation of a sentence or phrase from English to Ukrainian or vice versa.

(S-IX-13) "How would I ask, 'Did you get any matches?'"

Type (ii). The subject elicits information about the syntactical units of a phrase or sentence.

(S-X-3) "There's actually three words there, isn't there - 'čy ty maješ'?"

Type (iii). The subject requires information about the syntactical function of a component of a phrase or sentence.

(G-IV-2) "What are some of the prepositions that go with the genitive?"

Type (iv). The subject asks for general syntactical rules.

(S-I-2) "Are there certain ways that you would ask a question?"

4. General information about pronunciation.

Type (i) The subject inquires about general rules of pronunciation.

(Z-I-4) "Is there a particular accent in Ukrainian?"
(The subject is asking about a stress pattern.)

Type (ii). The subject requires information about specific sounds.

(Z-I-6) "It's hard for me to hear whether it's 'y' or 'e'. Does it fluctuate in between?"

Type (iii). The subject elicits models of pronunciation from the teacher.

(Z-II-9) "Say these two words."

Type (iv). The subject elicits information about euphony.

(Z-VII-14) "'U Kanadi' or 'V Kanadi'?"

5. General information about orthography.

Type (i). The subject elicits general information about the orthography of the language.

(Z-I-2) "Oh, I see, they do have 'x' and what do you call this?" (The subject wants the name of the letter 'h'.)

Type (ii). The subject requests the written form of a letter.

(Z-I-2) "And how do you write this 'g'?"

C. Contrastive information:-

1. Contrastive information about vocabulary.

Type (i). The subject draws a conclusion about lexicon on the basis of synonymy in another language.

(S-IV-1) "'Fast' and 'quickly' would be the same thing then?" (The subject wants the equivalent translation in Ukrainian.)

Type (ii). The subject is obviously basing his questions on another language.

(G-XVIII-1) "Have 'name' and 'patronymic'?" (The subject wishes to know if there is a form in Ukrainian analagous to the Russian patronymic.)

Type (iii). The subject guesses at a word on the basis of his knowledge of another language.

(Z-VI-7) "It's not 'iz', is it? Do you have 'iz'?"

(The subject in translating from English to Ukrainian would like to know if there is a form in Ukrainian corresponding to the Russian 'iz'.)

Type (iv). The subject is influenced by another language in guessing at the meaning of a word.

(Z-VII-14) "Is that 'rich'?" (The Ukrainian word in question is 'bahato' meaning 'many'; the Russian word for 'rich' is 'bogatyj'.)

2. Contrastive information about morphology.

Type (i). The contrastive information elicited about morphology is based on a language other than Ukrainian with the aim of applying this information to the target language.

(S-VIII-2) "'The dog ran after the rabbit.' Yah, there's a good example. That's still past tense, isn't it?"

Type (ii). The subject contrasts parallel morphological forms.

(Z-V-2) "Oh I see, you have 't' where we usually have 'č'; we have 'peči' and 'moči' and things like that and you have 'pekty' and 'mohty'."

Type (iii). The subject requests general information based on knowledge of another language.

(G-I-3) "Is the perfective formed by adding prefixes?"

Type (iv). The subject bases a conclusion about morphology on knowledge of a like phenomenon in another language.

(G-XX-2) "'to hope'?" (The subject is eliciting translations of verbs in both their imperfective

and perfective forms.)

"There wouldn't be a perfective?" (cf. Russian).

3. Contrastive information about syntax.

Type (i). The subject draws conclusions about syntax on the basis of another language.

(G-II-3) "Do you use the genitive after the numbers 2-4?"
(as in Russian).

Type (ii). The subject compares the structure of complex words with those of another language.

(S-V-7) "Are they all 'dvadcjat'' to start with all the way down?" (The subject under discussion is the formation of compound numbers, more specifically here the numbers 21-29. The subject compares the English 'twenty' which makes up these compound numbers with the Ukrainian component part 'dvadcjat''.)

Type (iii). The subject asks a specific question about contrastive syntax.

(G-II-1) "Is the use of cases like Russian?"

4. Contrastive information about pronunciation.

The subject compares the pronunciation of the target language with that of another.

(G-XIV-2) "Does a final voiced consonant become unvoiced?" (as in Russian).

5. Contrastive information about orthography.

Type (i). The subject compares the orthographies of Ukrainian and another language.

(G-III-1) "Are the spelling rules like Russian?" (The subject gave as an example the rule: no 'y' after sibilants.)

Type (ii). The subject compares specific orthographical phenomena of Ukrainian with those of another language.

(S-I-6) "Like, I suppose the same would pertain in Ukrainian as it does in English, like uh 'tough' is 't-o-u-g-h' and yet 'through' that's not pronounced 'thruf', is it? So I guess the same thing would exist in the Ukrainian language, would it not? Are there any examples of that?"

Type (iii). The subject reads the target language using his knowledge of another language as a basis.

(Z-I-2) "Let me try 'a', 'b', 'v', 'g', "
(cf. Russian).

D. Explanation:-

1. Explanation about vocabulary.

Type (i). The subject seeks an explanation of the difference in meaning between two words.

(G-XIII-3) "What's the difference in meaning between 'pryčuvalosja' and 'zdajet'sja'?" (The subject had been told that they could both mean 'I thought'.)

Type (ii). The subject wants an explanation of the structure of some complex lexical item.

(S-I-1) "How would you say 'piano', then?"

----- 'fortepjano'

"What does that mean? What's the 'forte'?"

2. Explanation about morphology.

Type (i). The subject asks for explanation of a morphological form.

(G-V-2) "Any reason that dative and locative are the same?"
(The subject had been given the declension of 'ci'.)

Type (ii). The subject requires an explanation about a morphological process.

(S-V-8) "'Desjat'" is 'ten', right? O.K., now we go up to 'fifty' and it's 'pjatdesjat', and 'sixty' is 'šistdesjat', 'simdesjat', 'Forty', howcum there isn't 'sorokdesjat'?"

Type (iii). The subject wishes an explanation of a morphological phenomenon.

(G-X-2) "Is there a stem change in 'dim'?"

----- Yes

"Any reason? Can you predict it?"

3. Explanation about syntax.

Type (i). The subject requires an explanation of a syntactical point within the context of a given phrase or sentence.

(S-V-3) "'druhi', it's not 'dva'. Why?" (The reference is to: 'Večirka skinčylasja v druhih hodyni'.')

Type (ii). The subject asks about the translation of a word within a specific syntactical frame of reference.

(S-XIII-2) "How can it mean two different things - 'The boys are in the field.' and 'The book is on the table'?" ('In' and 'on' are both translated here by 'na'.)

4. Explanation of pronunciation.

The subject asks for an explanation of the rules of pronunciation. (There were no examples of this category found.)

5. Explanation of orthography.

The subject requires an explanation of orthography.

(G-II-3) "Why 'je' rather than 'e'?" (The subject is comparing the endings of two different conjugations.)

II Reinforcement.

The category, 'Reinforcement', consists of two types of reinforcement - "assisted" and "unassisted" (or "self-reinforcement"). Broadly speaking, the category "assisted-reinforcement" is one in which the subject requires the teacher's verification, whereas "self-reinforcement" is one in which the subject knows his facts and is simply reviewing or practicing them as part of his learning strategy. It must be explained at this point that early in the study the trend of questioning indicated that the learning activity 'Reinforcement' would not be fully cross-classified with subject matter categories, as there was not at the point of completion of the study a significant amount of data on "reinforcement" for Subjects G and Z which was comparable to Subject S, whose activities were heavily concentrated on "reinforcement". Thus we have the apparent inconsistency in systematic cross-classification of the category 'Reinforcement'.

The following are typical examples of the reinforcement categories. In the quantitative analysis, all these 'Reinforcement' sub-types are grouped together, simply to give a general picture of the ratio of reinforcement to new learning.

A. Assisted-reinforcement:-

Type (i). The subject asks for a repetition of a form or of the meaning of a form.

(a) (S-I-3) "What's 'vid' again?"

(b) (S-I-6) "Now, 'kudy' is 'where' and 'koly', what's that?"

Type (ii). The subject, aware of the need of review, reproduces an incorrect form which is corrected.

(G-VI-2) "What is 'red' again - 'zlyj'?" (The correct word is 'červonyj'.)

Type (viii). The subject re-reads forms, focusing his attention on pronunciation or spelling.

(S-II-1) "'Orange'?" (The subject is eliciting vocabulary.)
 "How about 'brown'?" (The subject now reads off the list of colors. He is corrected where necessary and makes changes in his script whenever corrected.)

B. Self-reinforcement:-

Type (i). The subject tries to learn a sound, word, phrase, or sentence by repeating the model offered by the teacher.

(S-I-1) "How would you say 'chair'?"
 ----- 'krislo'
 "'krislo', 'krislo'."

Type (ii). The subject, although self-assured of his knowledge, asks for verification from the teacher.

(S-I-5) "A 'horse' is 'kin'?"

Type (iii). The subject states the meaning of a form orally in order to reinforce learning.

(S-I-6) "'Ložka', 'ložka', for 'spoon'."

Type (iv). The subject reads or repeats a phrase or sentence with the aim of concentrating on the syntax of the unit.

(Z-VIII-1) "We stopped with Lesson XVIII, I think, last time, so I'll read and you just correct if it sounds way off beat."

Type (v). The subject re-affirms or reinforces a point of syntax, pronunciation, etc. by repeating the fact in question or one akin to it in nature.

(S-III-8) "That's the same 'l' as in 'sil'?" (The subject is referring to palatalization.)

Type (vi).

- (a) The subject reproduces a form he has heard before, although not necessarily from the teacher.

(S-III-5) "Oh, I have some nice 'smetana'."

- (b) The subject gives the translation of a form he has heard before without necessarily having been taught it by the teacher.

(S-I-3) "'Duže fajno.'"

"That's 'Everything good,' isn't it?"

Type (vii). The subject copies forms the teacher has written upon request, thus reinforcing knowledge of some given facet of the form.

- (Z-I-3) "Since it's similar to Russian, let's see you conjugate for example a feminine?" (The subject copies the forms from the blackboard.)

Type (viii). The subject repeats a form specifically in order to perfect his pronunciation.

- (S-I-1) "Is it like with an 'h' in front of it, like a rolled 'r'?"

"'radjo', 'radjo'."

Type (ix). The subject repeats a word or phrase for the sole purpose of pronunciation even though he is not aware of the meaning at the time.

- (S-XV-6) ----- 'De olivec'?' (The subject repeats the sentence.)

"'olivec'', 'olivec'' what is it?"

Type (x). The subject writes forms in a script devised by himself (applies to Subject S only) to reinforce learning of pronunciation.

- (S-II-1) "I was wondering if I could put these down in

phonetics like the way they sound to me. I'll write it down the way it sounds."

Quantitative analysis

Each subject's activities were tabulated from the cross-classification matrix and the results of these tabulations translated into graphic form indicating an over-all picture from which we interpret individual learning strategies. These same graphic results also offer a basis for the comparison of the individual subjects' learning strategies. We leave more detailed discussion of these aspects to later chapters.

The results of these tabulations are given in graphic form indicating for each subject: 1) the proportion of 'New Learning' (NL) activities to total activity, measured in terms of the number of observed elicitations and responses, 2) the proportion of these NL activities devoted to each of the four activity categories (hypothesis testing, general information, contrastive information, and explanation), and 3) the proportion of NL activity devoted to each of the five subject matter categories (vocabulary, morphology, syntax, pronunciation, and orthography). Practical considerations forbade any such detailed analysis of the 'Reinforcement' activities.

The over-all proportion of 'New Learning' as compared to 'Reinforcement' is given above each graph as $NL = \text{such and such}$. The reinforcement figures $(1.000 - NL)$ and the proportion of any particular 'Activity' or 'Subject Matter' category to the total for a given Instructional Unit is readily derivable from the information shown on the graphs by means of the formula: 'Activity' or 'Subject Matter' figure times NL. For example, consider S - Unit 2:

- (a) Since .044 of the total activity of the Unit represents 'New Learning' (about 4%), then .956 (over 95%) was spent on 'Reinforcement.'
- (b) Since .854 of the 'New Learning' activity involved the elicitation of general information and .044 of the total activity was 'New Learning', only .038 of the total activity was actually spent in eliciting general information (= .854 X .044).

Graphs of cumulative results are given to the right of the results for each Unit.

Scale: 1 unit = .200 of the total activity (number of elicitations and responses)

Abbreviations:

UNIT (Instructional Unit) - Each 'Unit' represents a roughly equivalent period of instruction time. Two of Subject G's sessions are comparable in length of time to one each of Subjects S and Z (approximately 90 minutes each).

S - Subject S

G - Subject G

Z - Subject Z

NL - New Learning

SUBJ MAT - Subject Matter

H - Hypothesis Testing

G - General Information

C - Contrastive Information

E - Explanation

V - Vocabulary

M - Morphology

S - Syntax

P - Pronunciation

O - Orthography

The graphs are given in the Appendix (pp. 51-65).

ANALYSIS

General trends and strategies

Before discussing specific major statistical trends and specific differences and commonalities among sequences generated by different learners as well as differences between learner-generated and standard instructor-generated sequences we offer a few general remarks about the inherent qualities of the general LCI technique we employed.

Of great import to the field of language learning is the observation that even after some 20-30 hours of intensive instruction the motivational level of all three subjects seemed to remain just as high as it had been at the outset. Up to now one of the classroom language instructor's most difficult problems has been to maintain a high level of motivation on the part of his students. The LCI method appears to have a built-in motivational factor which is rooted in the fact that progress is brought about by carrying out one's own self-imposed goals under one's own initiative. With this technique the student need never lose sight of his ultimate goals, since all of his learning activities may be carried out in complete harmony with them. This factor may be responsible for helping to sustain a student's level of motivation at a constant high level, and in this respect the LCI technique seems to possess unique advantages.

Another major finding of this study is that the LCI method of learning tends to reduce normal student reticence and inhibitions, leading to more hypothesis testing and less reliance on the instructor for explanations and more on oneself. We see that 'Reinforcement' was consistently high, that 'Hypothesis Testing' tended to rise steadily for both Subjects S and Z, while the need for 'Explanation' was consistently very low for all subjects. This argues against the old "spoon-feeding" method of teaching and also reinforces the principle that learning is increased as learner activity increases.

Although there are some commonalities of learner-generated sequence, individual differences must be taken into account in a classroom situation for optimum success with language learning. This principle has been so far almost totally ignored by traditional educationalists insofar as integration of it into a classroom situation, even though it has been conceded as an important principle. When we take a look at our graphs we notice how different three students can be in their methods of learning. For example from the cumulative scores for Units 1-2 we see that Subject S wants to review (reinforce subject matter) over 90% of the time while Subjects G and Z wish to spend only about half their time on this. It is obvious the sort of frustrations which would arise if these three students were forced to learn together by traditional methods in the same classroom.

Individual differences come to the fore with respect to the disparity in the Activity/Subject Matter areas for the three subjects. Using Unit 2 as an example, once again:

- (a) Subject S spends the great bulk of his time eliciting general information about vocabulary.
- (b) Subject G is interested in general information about morphology.
- (c) Subject Z is almost exclusively hypothesis testing about orthography.

At the beginning of the study the other two students are much less inclined than Subject Z to begin hypothesizing. We see a small proportion of hypothesis testing for Subjects S and G at the offset but also witness a later constant rise for these same subjects. Significantly, Subject Z is a native speaker of a related language. This would signify that those students with considerable previous knowledge of a language of the same language family have more confidence and are willing to hypothesize sooner. Or it could simply signify that some students wish to attain an over-all picture of the language before venturing into hypothesis testing. In any

event it is hard to imagine how students could work together efficiently with such great disparities in their own preferred goals and strategies.

Traditionally, lesson by lesson, a student is typically taught vocabulary, a little pronunciation, some morphology and syntax and then given exercises as a form of reinforcement. Our results indicate that this is not what students want. Subject S was not interested in orthography and so ignored it completely. Perhaps he might have wanted to learn it later, but had it been foisted upon him at the outset of the sessions we would undoubtedly have seen a dwindling of motivation during the first meeting of teacher and student. On the other hand, Subject Z concentrated a great proportion of her efforts on orthography.

By Unit 4 all students were hypothesizing to a great extent. Not any of them showed a pronounced interest in explanations, but all showed much interest in reinforcement - a major commonality of learner-generated sequencing. This along with hypothesis testing indicates that the instructor's chief value may lie in providing correction and answers to specific questions, rather than in supplying general information which can be gathered from other sources such as books, files, etc.

On the whole, the data indicate that not any of the students showed a marked interest in pronunciation. The reason for this may be that rather than asking specific questions about pronunciation the students found the best way to learn pronunciation was the less direct but more "natural" route of reinforcement by corrected imitation.

We see constant consistency between original goals and the data for all three subjects. For instance, because Subject G wanted to learn about the language and to compare it to Russian, she has a high ratio of general information questions and questions on contrastive information as opposed to hypothesis testing and explanation. On the other hand, Subjects S and Z show a great increase in hypothesis testing by

their expressed goals to learn to speak (Subject S) and to read and write (Subject Z). Subject Z has a high score on 'Orthography' because she was mainly interested in reading, writing, and spelling. Subject G scores consistently high on 'Morphology' and 'Syntax' because she is interested in comparing Ukrainian with Russian (contrastive approach) and she is familiar with the grammar-translation approach which stresses morphology and syntax. She is not particularly interested in vocabulary because she says she can find it on her own in a dictionary, nor is she very interested in pronunciation. Among Subject S's stated goals were to be able to develop a good pronunciation, to have a working vocabulary, and to be able to engage in simple conversations. His data are consistent with all of this: his early pre-occupation with vocabulary quickly gives way to an increase in interest in syntax and morphology, with a greater proportion of his total activity devoted to 'Syntax'. Clearly he is interested in learning to speak in complete sentences and he avoids spending any more time than necessary on component parts. It is also not surprising to find that in his overriding concern to learn to speak the language, his activities in the 'Orthography' category are virtually nil. This investigator found his almost complete disinterest in spelling to be rather surprising.

Subject G has the lowest over-all cumulative proportion for 'Reinforcement', as she used her sessions for purposes of gathering information, as is borne out by her consistently high scores for 'General Information'.

Individual strategies

In addition to the tangible general trends discussed above, the data provide many clues as to the individual techniques (learning devices) used by the individual subjects to learn the language. It should perhaps be reemphasized at

this point that these strategies are student-devised and that the student is convinced that this is the manner in which he will best attain his desired goal. (These individual goals are outlined for each student in Chapter 3.)

Subject S was in many ways the most interesting subject to this study since he had not formally studied a foreign language and therefore had little basis for a contrastive approach to learning, and no interference from any other language except English. Both Subjects G and Z did have previous knowledge of Russian, and Subject Z of Serbo-Croatian, as well, which in the main accounts for their more contrastive approaches to the study of Ukrainian.

Subject G, in general, chose a contrastive framework within which to work by following the formal grammar approach she was familiar with and based most of her questions on her knowledge of Russian. To her this seemed the most expedient way to approach the study of Ukrainian, i.e. those aspects of it she wished to learn (her goals), one of which was to learn how Ukrainian differed from Russian. She spent a great deal of time gathering information about the Ukrainian counterparts of Russian - irregular verbs and idiomatic expressions after having gone over "regular" inflections. She did not wish to spend time during the sessions learning vocabulary (note the relatively low proportion for 'Vocabulary' in most of her charts), but stated that she could look up words in a dictionary. Her previous knowledge of the Cyrillic alphabet was an asset in this respect and she definitely spent little time on those aspects of the language she could ascertain from her knowledge of Russian. The fact that she did not show a marked interest in pronunciation or orthography has already been mentioned.

On the other hand, Subject G asked to have new Ukrainian material written out for her from the very beginning and she painstakingly copied all of this information out for herself. This was presumably one of Subject G's major methods of

reinforcement - by having a new word or utterance written out and then copying it. These notes later served as her reference material. And rather than following a Ukrainian grammar text as Subject Z did, Subject G bases her contrastive grammar approach on the structure of a Russian grammar text she is familiar with.

Subject G hypothesized relatively rarely compared to the others and then only when she was fairly certain of her facts. She also rarely asked for repetitions of pronunciation, relying instead on the written word for clues to pronunciation and reinforcement. Another personal strategy noted was that whenever the teacher incidentally alluded to the possibility of optional or alternate forms, Subject G preferred to stick to the one, preferred form.

After five days of eliciting inflections, Subject G then asked for homework and specified the type of exercise desired. This served her immediate goal which was to learn a given aspect of Ukrainian as well as serving as a device for fulfilling her long-range goal - to learn Ukrainian. During Session V she asked that a written exercise for homework be prepared for her. She specified that it be in the form of a completion exercise, i.e. a number of simple Ukrainian sentences which required completion by translation of English words indicated in parentheses. The object of this exercise was to concentrate on the types of conjugations and declensions which the subject had studied to date. During Session VI she asked for another completion exercise, this one emphasizing the use of pronouns she had studied to date. We note that these exercises appear to be her approach to hypothesis testing.

Of interest here is the fact that all subjects seemed to gather vocabulary almost incidentally (i.e, not through any pre-conceived strategy), almost as a by-product of information about morphology or syntax which involved explanation through illustrative phrases or sentences.

Subject S began his learning sessions by stating that he did not wish to learn the Cyrillic script. Consequently he chose to devise his own "phonetic" script for use in writing down utterances. This record of utterances in turn became his lexicon. He relied heavily on the teacher for models of pronunciation and was most anxious to achieve correct pronunciation and intonation. The most outstanding characteristic of Subject S's strategy was his extremely heavy emphasis on reinforcement - uttering models both to fix them in his mind and to perfect his pronunciation. He made mention of the fact that repetition is what had helped him in school so he wanted to apply the same approach to this study.

Subject S's general strategy was to pose questions which would provide information helpful to him in everyday situations. These utterances would aid him in understanding and speaking to his Ukrainian-speaking relatives and friends. His interest in syntax did not focus on structure per se; it was practical in the sense that he only wanted to improve his facility at spontaneous conversation. As in the case of the other two subjects, Subject S was highly consistent in his general strategy, which he was convinced would lead him to his goal - that of understanding and speaking Ukrainian. So from almost the very beginning, Subject S was hypothesizing and eliciting information about full sentences. Note that by the end of 15 Units of instruction Subject S had devoted fully 50% of his new learning activities to syntax.

Anytime Subject S had an opportunity he would ask for assisted-reinforcement of words he had heard before the study began. If his form was incorrect he would obtain the correct one and reinforce it. These utterances in addition to those he heard during the sessions were consistently recorded by him in his self-devised script.

In general Subject S did not spend much time on the structure of the language, but rather on meanings of specific utterances. He was unable to discuss grammar using formal grammatical terminology as he had insufficient knowledge of this. He rarely discussed morphology and syntax in theoretical terms; he focused his attention on them for the first few days after becoming aware of their existence, but soon turned again to the elicitation of sentences. Not until Session VII did he become fully aware that there is any coherent morphological and syntactical structure to the language.

Subject S's specific strategy for the first few sessions was to elicit phrases and sentences which incorporated words he had previously learned. That is, he always attempted to relate previously acquired material to newly acquired material. It was noted that if he was corrected on one word in a sentence, Subject S usually repeated the entire sentence again. These last two devices emphasize the importance of reinforcement to his approach.

From Session VIII on, an easily defineable technique or pattern of learning for Subject S emerged:- 1) He elicits a sentence by asking for a direct translation or one which conveys the meaning. 2) He hypothesizes about its structure applying his knowledge of Ukrainian syntax or else guessing on the basis of the English sentence. 3) He co-incidentally gathers new information about all five subject areas. With this technique Subject S slowly gains confidence in his knowledge of vocabulary, pronunciation, syntax, and morphology and begins more and more to formulate sentences on his own in the target language so that by Session XIV his second last session, Subject S puts to the test phrases he knows by uttering a few spontaneous comments on events occurring during the lesson.

During his last session Subject S changes his strategy drastically by requiring the teacher to behave mainly as a response mechanism. He asks to be given sentences in Ukrainian which he is likely to understand and to which he can answer in

Ukrainian or add something to by speaking in Ukrainian. When he is given sentences, if they are questions and if he can respond in Ukrainian spontaneously, he does so; if the sentences are statements he attempts translations and does not give up easily with multiple attempts before asking to be given the meaning. Thus the data for this Unit show the high score of .715 for 'Hypothesis Testing'. On this day Subject S did no writing at all, devoting his time solely to hypothesis testing and reinforcement, once again, in complete accordance with his goals.

Subject Z's general strategy was a traditional textbook approach. She wanted to learn mainly to read, write and understand, but not necessarily to speak. The first day she checked to see if Ukrainian was as much like Russian and Serbo-Croatian as she suspected, then she immediately launched into an idiosyncratic technique of her own design. Her major device for new learning and reinforcement was to read aloud. In Session I she requested that the instructor dictate a large number of Ukrainian sentences to her so she could practise "hearing and writing". She attempted to write each sentence down as she heard it and then tried to read it back aloud.

In Session II an additional technique was introduced: the subject looked over the grammar sections of a standard Ukrainian text which she attempted to cover systematically from Lesson I on, reading aloud the paradigms and illustrative sentences, taking note of information that is similar to Russian and Serbo-Croatian, and asking questions if she had any. She then read Ukrainian sentences from the exercise sections, translating whenever uncertain of meaning, asking questions where necessary, and then taking more dictation, as before. While doing this she often re-read sentences to check orthography and pronunciation. She also used these sentences as a means of learning and reinforcing syntax, vocabulary, and morphology, as well as orthography and pronunciation.

Subject Z followed essentially this same strategy throughout, with some exercises deleted or supplemented by further elicitation. For instance, by Session VI she felt she did not need to read or translate quite so many exercises, so she began to limit the length of these. As early as Session III she began to translate English sentences into Ukrainian orally, while at the same time writing them on the board. She used this device mainly for learning the syntax and morphology of the language, as well as for reinforcement. Of interest is the fact that she virtually ignored vocabulary she felt she would have no use for. Subject Z was very persistent in her hypothesis testing throughout. She often made several attempts at constructing the correct forms herself before asking the teacher to supply them.

By Session VII Subject Z modified her technique by writing only those words she wanted a spelling check on during the translations. Apparently she was by this time confident in her knowledge of the alphabet and wished to focus her attention on other matters.

During the last few sessions Subject Z's main strategy for reinforcement was in the form of review, i.e. she went back a few chapters in her text and re-read sentences in Ukrainian out of the exercise section before going on to new material. She believed strongly in reading exercises and translation exercises as forms of reinforcement because, as she put it, as well as being sources of new information to her, "They make use of the same vocabulary over and over again."

By Session VIII Subject Z began to concentrate all her efforts on her goal of understanding the language, specifying that she was to be corrected when reading only if her pronunciation was completely "off target". This would indicate that she was satisfied at this point that she had a satisfactory command of both orthography and pronunciation. An additional approach to testing herself on meaning and understanding during this session was by means of oral translation of sentences which

the teacher read in Ukrainian.

Session IX shows an upward swing in orthography only because Subject Z spent the day in review. From Session IX on, had the instructional sessions continued, it is safe to assume that Subject Z's interest in orthography would have almost vanished, as she was now reading and writing exercises with the almost exclusive purpose of viewing syntax and morphology.

With this we conclude our description of the factual aspects of this study, i.e. of the statistical results and descriptive accounts of individual learners' strategies. Our next and concluding chapter will be devoted primarily to theoretical discussion with a number of accompanying practical applications which grew out of this study.

CONCLUSIONS

Advantages of LCI as an instructional technique

This study in LCI refutes by way of results the principle that an instructional program, programmed or otherwise, should be presented in a pre-arranged, "logical" sequence. "Logical" to whom - student or instructor? It might be quite safely deduced that the traditionally accepted body of subject matter and learning activities remain at the core of language acquisition and learning but that they need not be presented in a pre-arranged sequence. We cite two quotations from subjects to exemplify this:

(G-V-3) "If I don't know how to do it and get it wrong, that's O.K. I'll learn to do it right eventually."

Obviously some subjects (like S and Z) prefer to be corrected on the spot, while others (like G) do not.

(G-XIV-1) "This is probably a stupid time to ask it, but would you like to write the alphabet out in order?"

But actually (note that this question was asked during Session XIV, i.e. well towards the end of the instructional sequence), why should this be the "wrong" time, since the subject already knew the Cyrillic alphabet from Russian and had already covered the Ukrainian letters which differ. Not all students have to be taught the alphabet at the outset of the course.

These are only two cases in point. There were many others. Teaching something at one point and according to some pre-conceived (instructor-generated) plan is not necessarily preferable to teaching it at another or in a manner devised by the learner. This pinpoints the essential nature of the learner-generated sequence and its chief advantage over the instructor-generated sequence in the study of foreign language material.

In order of considered importance, we may now provide a point by point assessment of the LCI method as an instructional technique and its attendant advantages over the standard instructor-generated sequence, referred to here as the "traditional classroom approach." Although we acknowledge the fact that there are many sophisticated programmed learning techniques now available, the fact remains that these have so far been developed around instructor-generated sequences, for the most part.

1. Students are not as inhibited as they are in large traditional classrooms and are not afraid to indicate their preferences.
2. The traditional classroom is geared to the "average" student. There is not much room for remedial and enrichment material to take into account individual differences. Nor is there room for immediate individual attention. For instance, it was found that one learner would not write an utterance until he was certain he had heard it properly, that is, not until he had obtained all the repetitions he required. A traditional classroom cannot allow for this type of individual attention.
3. This method stimulates a "mature" approach to learning through the vehicle of independancy of learning. Students are able to direct their own learning and quickly become aware of all there is to learn, whereas under traditional methods the student rarely thinks of all the material he could be covering, since he depends on the teacher for almost everything. In this study this "mature" approach was manifested in a number of ways:
 - (a) The subject usually detected his own difficulties with pronunciation and made a conscious effort to rectify or improve them.
 - (b) The student took a responsible attitude in completing assignments for the appointed day - one he had appointed himself.

(c) LCI encourages initiative and resourcefulness. For example, Subject Z had perused the alphabet before her first session.

(d) All subjects made full use of the time allotted to them.

4. Students in the process of discovering facts for themselves and obtaining the immediate responses and required reinforcement that the LCI method provides for, retain their motivation.
5. The students have confidence in this approach and are quick to reassert control of the situation should the teacher happen to forget and give unsolicited information.
6. If the teacher is not able to produce the required information at the time requested, the student defers the issue and goes on to something else. He does not let the situation stop him and does not lose confidence in the teacher's ability nor interest in the language. With the use of a Resource Centre (see below) the teacher could refer the student to it in this situation.
7. Subjects are aware that time is of the essence and so employ any device they can to save time, as when asking for a paradigm, they request that the teacher write only the endings rather than the full words. By the same token, students leave the final fixation of new knowledge to their own devices carried out on their own time, rather than during the learning sessions. In other words, effective reinforcement could be carried out in the Resource Centre rather than at the teacher's expense.
8. Students do not want any material or activity which will obscure their main focus of attention. With traditional methods, the instructor-generated sequence often does this. For example, subjects wanted short words for paradigms rather than long ones which were more difficult to remember.
9. Students are not forced to over-learn, i.e. waste time on material they already know. This is also an important motivating factor.

10. Expediency within the individual approach is provided for with the technique by allowing individual learners to transfer and apply any approaches which have served them in good stead in learning other languages.

I believe these few but important statements about the advantages of LCI as a method of learning suffice to draw to the attention of educationalists its potential advantages as a relevant, positive aid to the field of adult language learning.

LCI as a technique for further research

In addition to its use as a method of language learning the Learner-Controlled Instruction concept shows considerable promise as a research technique. We have in it a technique for discovering further learner-preferred strategies. These learner-preferred strategies would of necessity revolve around individual differences, an important aspect of any successful program of learning.

The following research questions were brought to light by this study. All of these questions could presumably be clarified by extending the techniques outlined here.

1. To what extent is linguistic interference a detriment?
Perhaps researchers should be focusing their attention on positive transfer of training. Aside from the theoretical aspects of this question (which are discussed in further detail in the Error Analysis section below), it may prove advantageous to avoid instilling in students an interference which might serve to inhibit or discourage some in their goal of learning a second language. The subjects in this study seemed to progress quite well apart from any real awareness of the problem.
2. To what extent should we concentrate on perfecting pronunciation? Again, we should not focus on it to the detriment or discouragement of communication. Some adult

learners have an aptitude for pronunciation, others do not. Pronunciation should be acceptable but not necessarily impeccable. And presumably the student himself is the best judge of what level of perfection is adequate for his purposes.

3. When should the writing skills be taught? This study appears to substantiate the view that the writing skills should be taught only after the subject has attained acceptable proficiency in oral communication, if this is the primary goal. Subject S indicated a better ability for remembering new words than did Subject G, as he didn't rely on the written image to anywhere near the extent that she did. Subject G knew that she could look up words in a dictionary whenever necessary. So perhaps this would indicate postponement of the writing skills.
4. How valuable is over-learning or even learning by rote? Periodic reinforcement seems to be a much more efficient tool for accomplishing the same ends.
5. Why do students prefer to "jump" from area to area during a learning session as all three of our subjects did? Does this help alleviate boredom?
6. Do different activities or subject matters require differential amounts of reinforcement? This could not be ascertained in this study since detailed records were not kept of reinforcements according to category. Clearly different subjects require vastly different amounts of reinforcement, at least as far as this study would indicate.
7. This study suggests that the amount of reinforcement should taper off as the student gains more confidence, although never drop to absolute zero. This observation is based on the fact that during Session VII Subject S stopped re-reading the Ukrainian sentences he had elicited and by Session XIII he was no longer repeating every word of a sentence being translated for him. Further research might indicate the upper limits under which a program of intensive

reinforcement might reasonably be carried.

8. None of the students showed much interest in proper nouns and some ignored them almost completely. Is this a significant observation? Similarly, Subject Z ignored the vocative case because as she said, "You never speak to tables and chairs." By the same token, some subjects did not feel it important that inflections of nouns, pronouns, and adjectives be correct all the time, whereas all seemed to feel that verb forms must be. These facts may well represent idiosyncracies of the particular individuals who participated in this study, or further research may serve to attach some general significance to them.
9. The LCI technique greatly facilitates research for the development of an exhaustive Resource Centre to aid the learning process. A Resource Centre would always be subject to modification as new research warranted it (see below).
10. One important undesirable aspect of LCI also emerged from this study, namely the heavy burden it placed on the teacher and the relatively limited amount of instruction time it permitted. Many important questions remain which could only be answered by extending the total instructional sequence a good deal further. The subjects who utilized the contrastive approach as a basis of learning, for example, seemed unwilling to deviate from this method. We suspect that once the subject would have exhausted his basis for comparison or would have gained confidence in his newly acquired knowledge of the target language, he might have changed his method drastically. It would also be interesting to observe how subjects would function in an atmosphere conducted strictly in Ukrainian. This presupposes an instructional sequence a good deal longer than could possibly have been carried out given the practical limitations necessarily imposed on this study.

Error analysis

The value of 'Error Analysis' as applied to the field of language learning is developed persuasively by S. P. Corder in his (1967) article "The Significance of Learner's Errors", a summary of which follows these brief remarks.

In order to familiarize myself with the concept and establish its possible association with the LCI technique, I kept a simplified, systematic, partially analyzed record of Subject S's most common errors. As a result of this familiarization I came to full agreement with Corder's appraisal of the value of analysis of errors both to methodologists (teachers and researchers) and to learners of second languages. This record indicates that the LCI technique is well-suited for gathering information about common learner errors. This account of Subject S's errors has been kept on file and is available as a basis for further work along these lines.

Results of error analyses can be successfully adapted to Resource Centres as sources of corrective exercises based on the discovered common errors for example, as well as serving as scientific material for the general field of language learning.

Corder begins his argument for the significance of learner's errors by taking up the proposal of H. E. Palmer (1917), who maintained that we were all endowed by nature with the capacity for assimilating language and that this capacity remains available to us in a latent state after the acquisition of a primary language. The adult is viewed to be as capable as the child of acquiring a foreign language. Corder argues that if we postulate the same mechanism, then we may also postulate that the procedures or strategies adopted by the learner of the second language are fundamentally the same.

Corder then turns to the immediate discussion of learner's errors by quoting from Brown and Fraser (1964):- the best evidence that a child possesses construction rules is the

occurrence of systematic errors, since when the child speaks correctly, it is quite possible that he is only repeating something that he has heard. Since we do not know what the total input has been we cannot rule out this possibility.

In second language learning the teacher can have control of the input, but Corder maintains that the input should be determined on the basis of what the learner wants because after all in the mother-tongue learning situation, it is the child who chooses the input he needs out of the vast selection available. (see Shipley, Smith, and Gleitman, 1969).

Once we have learned how a learner learns and what he wishes to take in we may then be able to provide the optimum conditions in which language acquisition develops.

Corder then introduces Learner-Controlled Instruction (Mager, 1961) as being one of the few practical investigations into the matter of determining the nature of such a learner-generated sequence. He goes on to say that it is upon such investigation that the study of learner's errors would assume the role it already plays in the study of child language acquisition, under the assumption that in both cases the learner is using a definite system of language at every point in his development. The learner's errors are evidence of this system and are themselves systematic. From these errors we are able to reconstruct his knowledge of the language to date, i.e. his transitional competence.

Corder cautions that before the analysis can be of use one must conduct a sophisticated study to determine which errors are learner's mistakes, i.e. ones due to physical or psychological stress etc. and which are learner's errors. It is only the learner's systematic errors which are of significance to a linguistically oriented error analysis. Corder summarizes the significances of learner's errors this way: 1) They tell the teacher how far towards the goal the learner has progressed and, consequently, what remains for him to learn. 2) They provide the researcher with evidence of how language is learned

or acquired, what strategies the learner is employing. 3) They are indispensable to the learner, because we can regard the making of errors as one device the learner uses in order to learn (hypothesis testing).

Corder concludes that the making of errors or hypothesis testing is a strategy employed both by children acquiring their mother-tongue and by those learning a second language. Our study in LCI attests to this and has yielded many examples of linguistically interesting learner's errors.

On the question of the role of linguistic interference in learner's errors, Corder's view is that the learner's possession of his native language is chiefly facilitative and that errors are not to be regarded as signs of inhibition, but simply as evidence of his strategies of learning, i.e. testing two hypotheses: 'Are the systems of the new language the same or different from those of the language I know?' 'And if different, what is their nature?' Our study in LCI very effectively demonstrates Corder's case in that this was a very obvious and useful strategy for Subjects G and Z. Subject S's use of this approach was less apparent, but nonetheless present.

Adaptation of LCI to a school-system

The most valuable aspect of the learner-controlled technique of instruction is the fact that it makes almost unlimited allowances for individual differences. Since learners appear to realize their own needs and are able to keep their ultimate goals in view, we propose that a learner-controlled instructional system would best be one composed essentially of teachers serving in a tutorial capacity, as aids and guides only when called upon by the student's needs. The bulk of instruction could be handled by a Resource Centre devised by teachers and professional educationalists, which could fill those learning needs which need not occupy the time of teachers. The LCI method

also fills the important need the learner has for immediacy of response and reinforcement via the instructor and/or the Resource Centre.

LCI adapted to a school-system facilitates many specific needs of learners, some of which were indicated by this study. For instance: 1) The subjects liked to graduate from less complicated material to the more difficult. LCI would allow them to gauge what to them is complicated and what is not and also to gauge their timing for graduation to more difficult aspects. 2) Those who require more of the teacher's time, especially those studying through the oral approach (i.e. disregarding the script as for example Subject S does) would function easily within this system.

The teacher's role in LCI is one of filling the needs of learners. Besides guiding and aiding students directly he must contribute material to the Resource Centre. By way of comment, teachers ought to be able to function in the LCI system under a "team teaching" system which has an advantage in that one teacher would not be expected to be an expert in all areas of the language.

Some school-systems might still be required to formally assess student progress in school subjects. A suggested approach to this would be a general curriculum taking into account specified individual goals as far as possible. A plan might follow this outlined curriculum: 1) For those who wish to learn to speak the language, by the end of the first semester the student ought to be able to carry on a conversation making a purchase in a grocery store, i. e. everyday situations. 2) For those who wish to be able to read for comprehension, at the end of a specified unit of time the student should be able to read a sight passage and take a prescribed test to indicate understanding of the passage. 3) For those whose goal it is to communicate by writing, at the end of a specified unit of time the student should be able to write a friendly letter.

With general guidelines of this sort the student attacks the problem using his own means and the help of the teacher and the Resource Centre.

Even a student who is not "foreign-language" orientated will benefit in this "free" atmosphere which LCI provides, because he will not be able to avoid learning something, as he has to put in a required number of hours of work, be it administratively imposed or self-imposed. If this study is any indication, we as teachers and administrators have no need to fear disciplinary problems if we can see students adopting a mature and responsible attitude towards learning within a school-system.

Resource Centre

A necessary component of a school-system which has adopted the learner-controlled method of instruction is the Resource Centre, an area of the school given totally to a collection of learning aids which are used in conjunction with the help and guidance of an instructor. The following suggestions for material to be included in this proposed centre were almost totally based on the needs of the three subjects as they arose during this study.

1. A few sample questions to help students lacking in imagination to get started.
2. A cross-indexed lexicon which provides information about
 - (a) word families; (b) idiomatic expressions; (c) words in Ukrainian which are the same or similar to those of a related language but which have entirely different meanings. (cf. (Z-IX-2): "I'm interested in the words which are similar to ours (Serbo-Croatian) but have different meanings.");
 - (d) prepositions and the cases they govern; (e) preposition directional chart - eg. 'na-z', 'do-vid', 'v-(i)z'; and
 - (f) inflectional charts.

3. Corrective exercises based on common errors researched through Error Analysis. Corrective exercises drawn up by teachers as the need arises and based on specific individual problems.
4. Grammar texts for those who wish a traditional grammar approach, dictionaries, readers, literature, reference books and, in general books, on all aspects of a language, including the history and the culture of that language group.
5. Teaching machines (programmed learning), tapes and mechanical aids in general.
6. An international phonetic system. A student who wishes to devise his own phonetic system and use it will naturally be allowed to do so.
7. The alphabet and a transliteration system.
8. Exercises which fulfill the need for corrective measures or practise in a specified area devised for written homework.

These needs of the individual learners which could be fulfilled by a Resource Centre came to our immediate attention as a result of this study. No doubt further research would indicate many other items which should be added.

Closing remarks

What is our aim as language instructors or researchers? It is to make language learning as efficient and enjoyable as possible. This suggests that anything which keeps the student interested in learning is good. I submit that in the learner-controlled instructional method of learning we may have found the key we have been looking for. This method has come upon a precious phenomenon - motivation and enthusiasm in learning, the necessary components of an efficient method of learning. Children have natural enthusiasm and considerable intrinsic motivation, both often obscured in the adult. It follows that any method which can maintain these during the learning

process should be the one chosen to achieve the end of the efficient learning process.

Corder in his article, "The Significance of Learner's Errors", sums up the matter for us when he suggests that we cannot really teach language, we can only create conditions in which it will develop spontaneously in the mind in its own way. We shall improve our ability to create such favorable conditions only when we learn more about the way a learner learns and what his built-in syllabus is.

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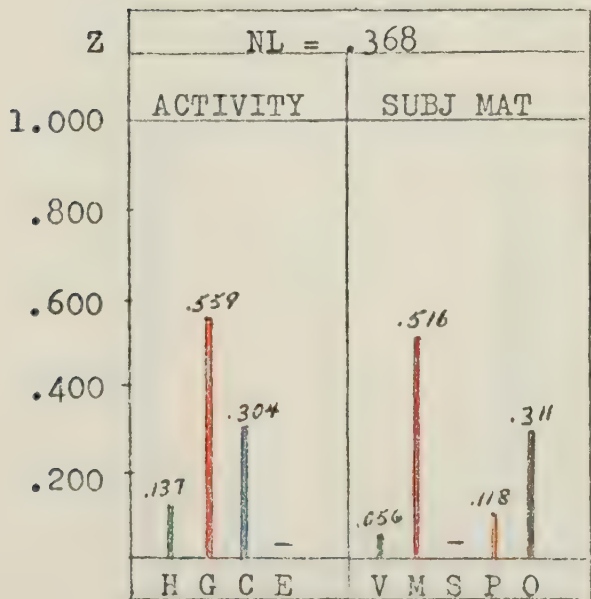
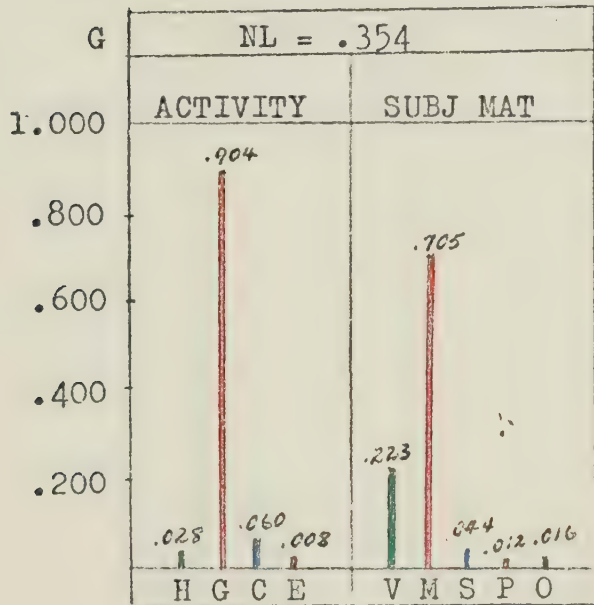
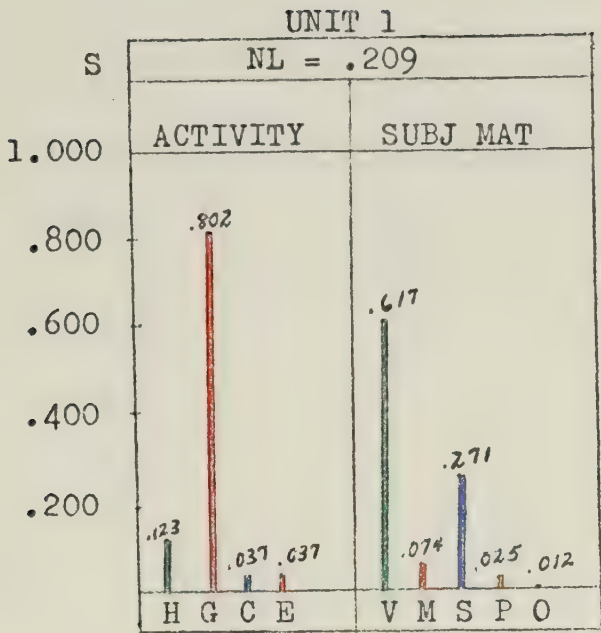
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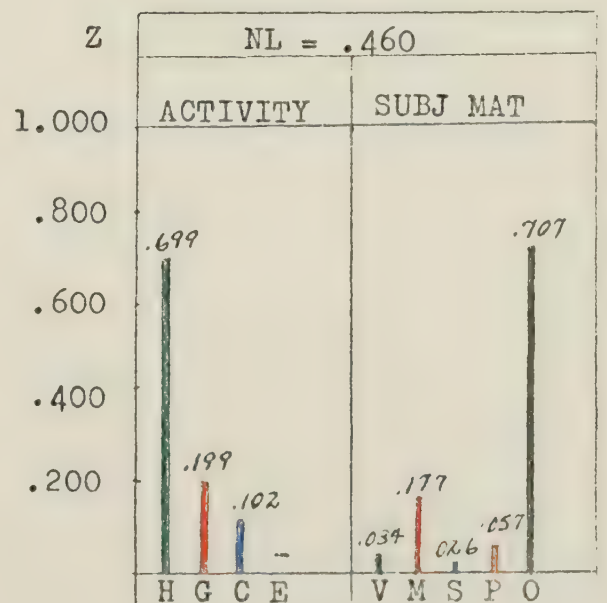
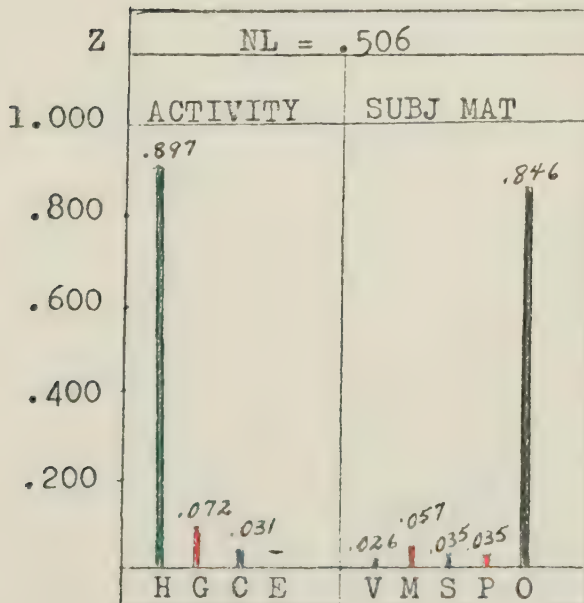
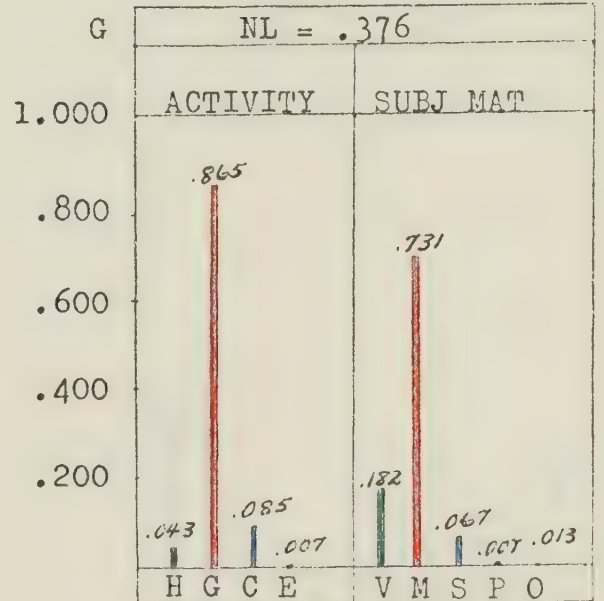
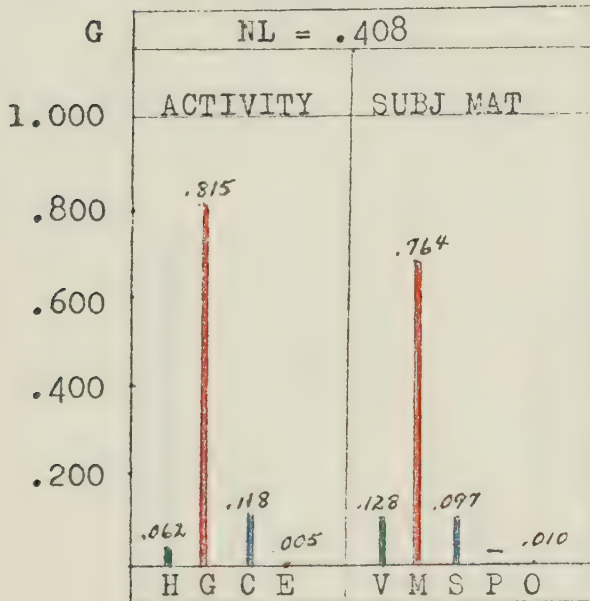
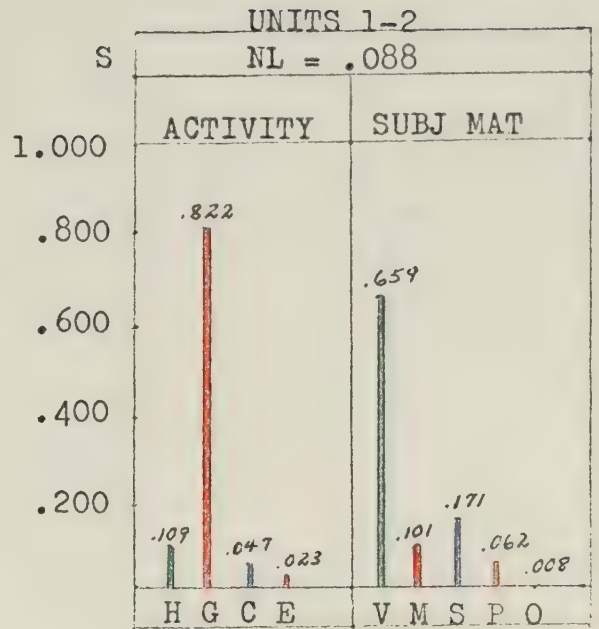
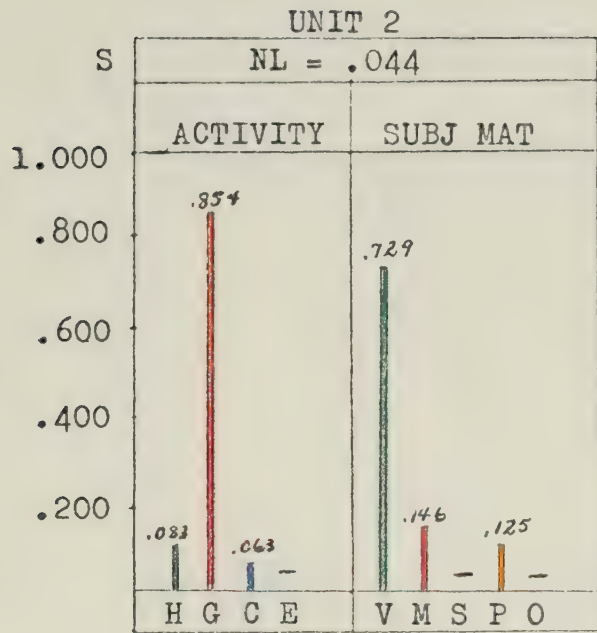
APPENDIX

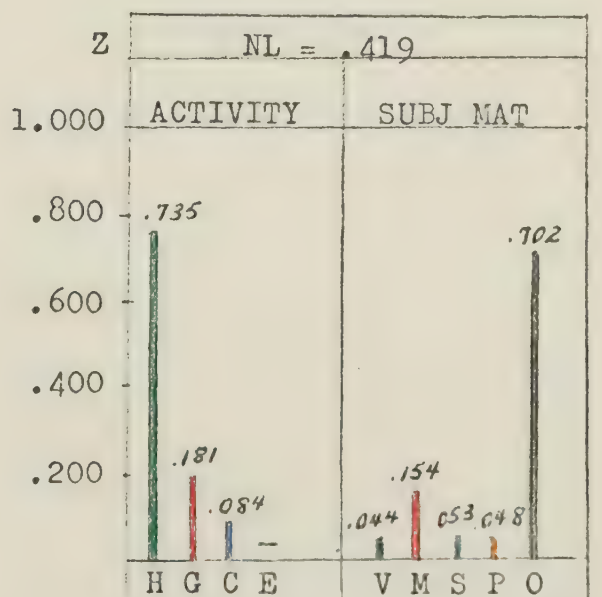
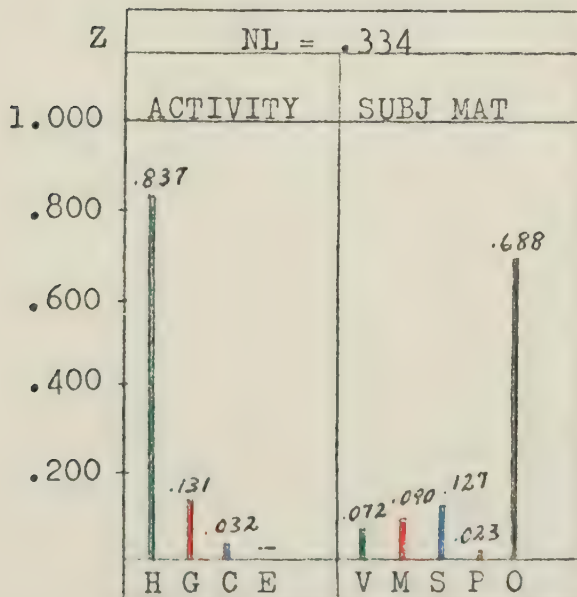
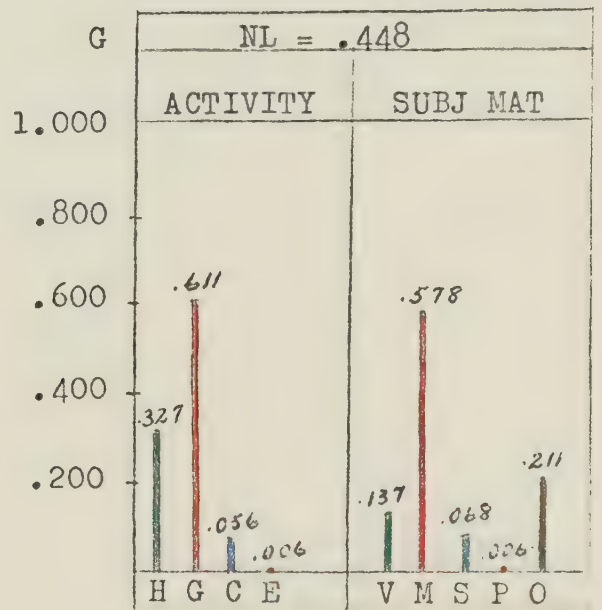
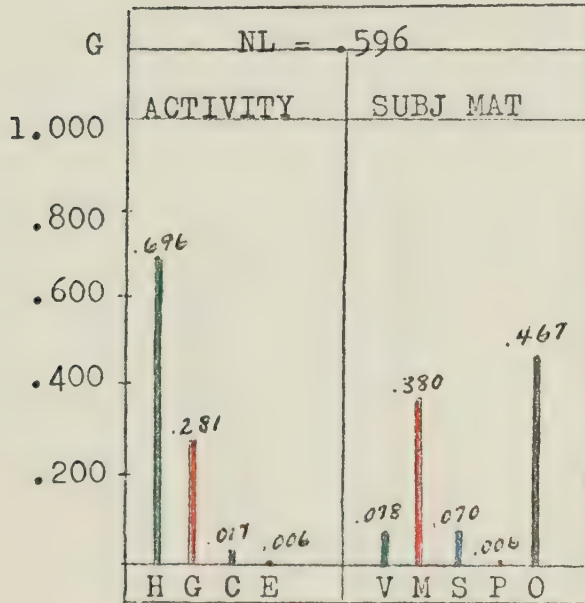
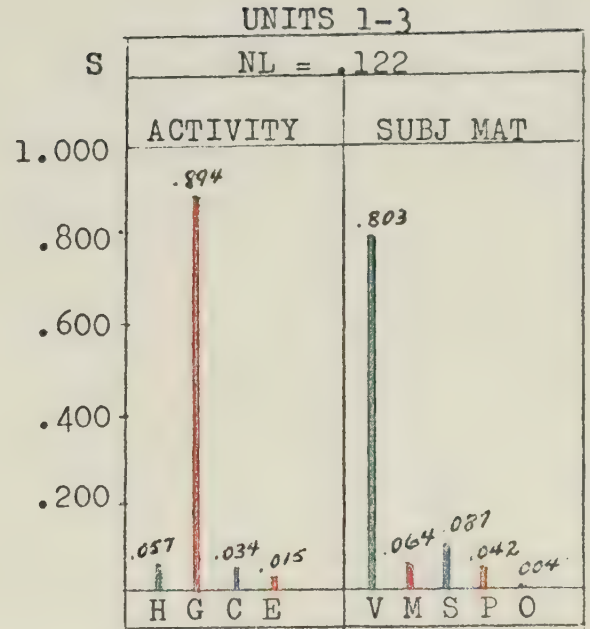
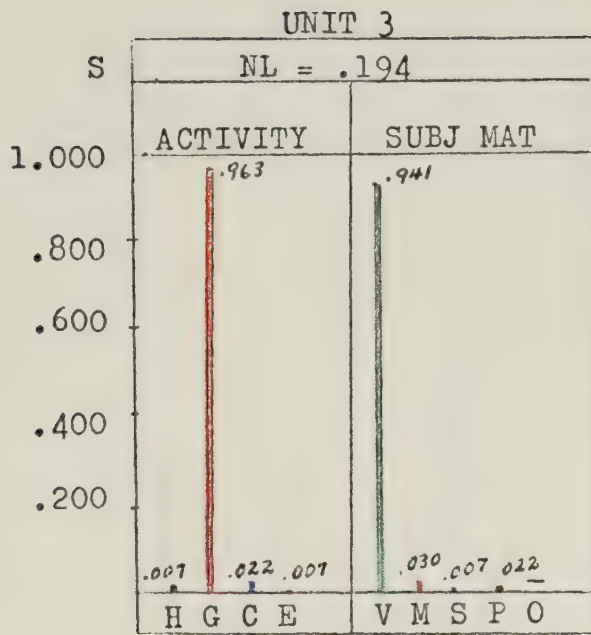
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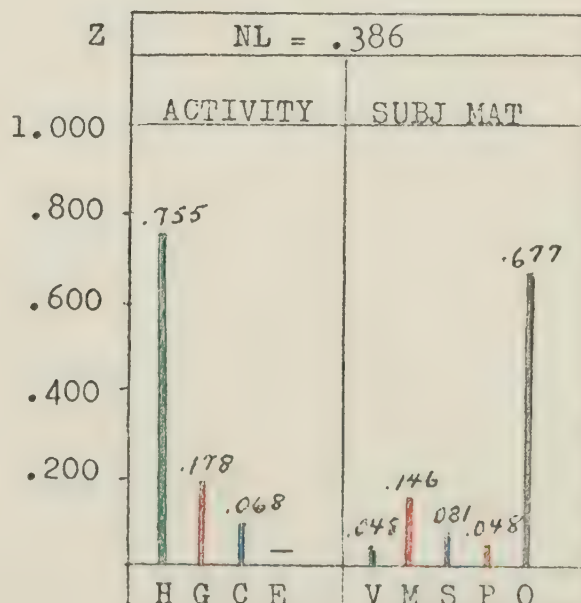
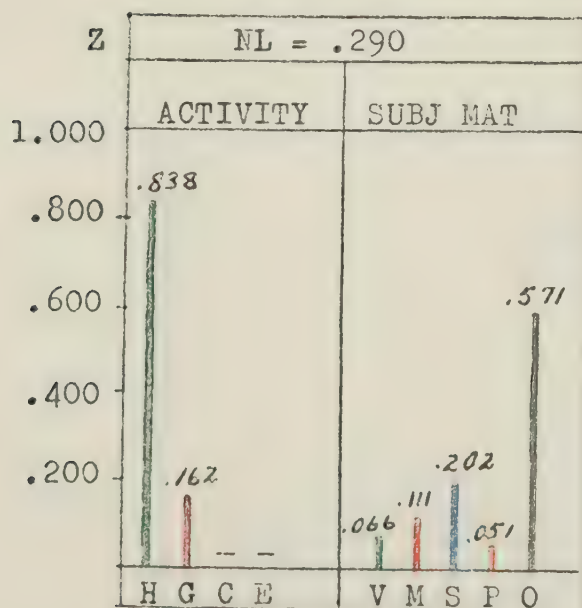
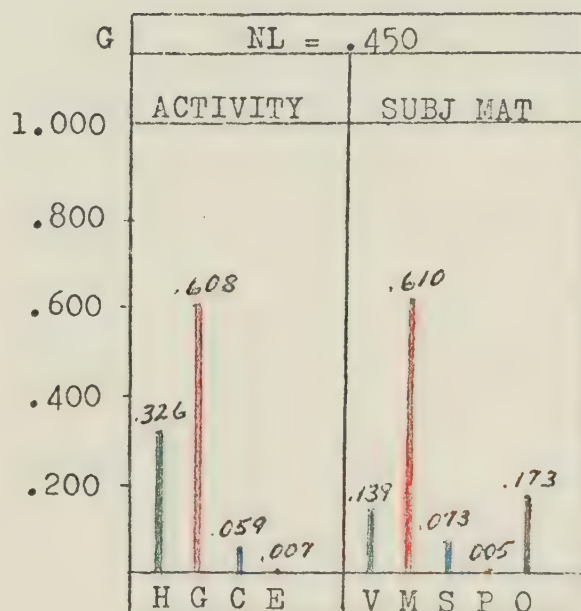
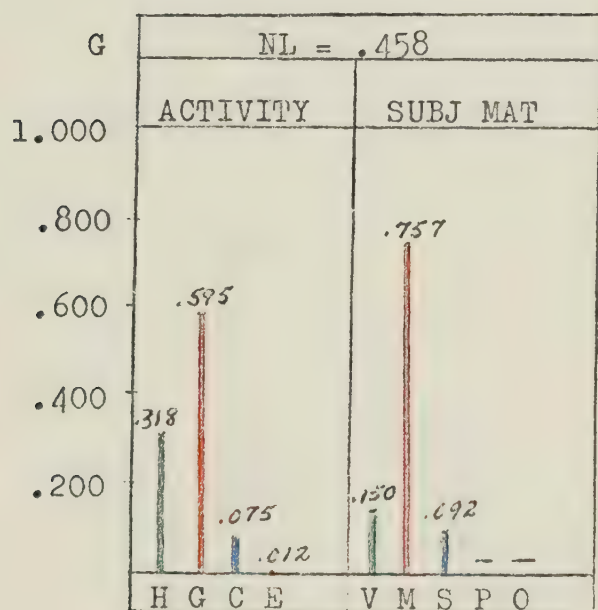
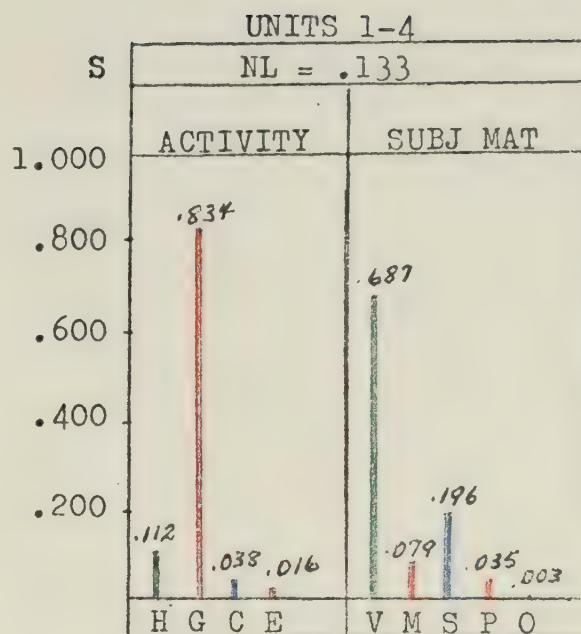
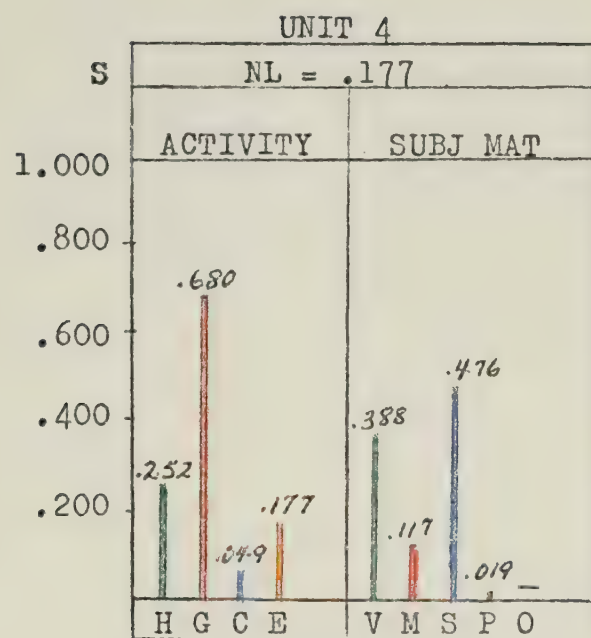
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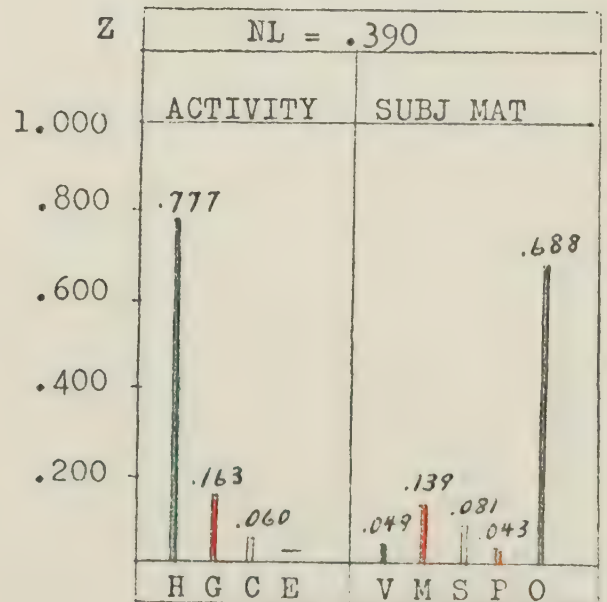
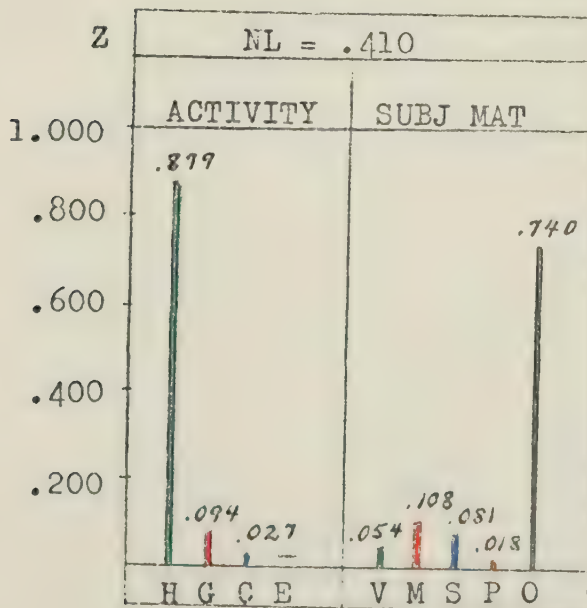
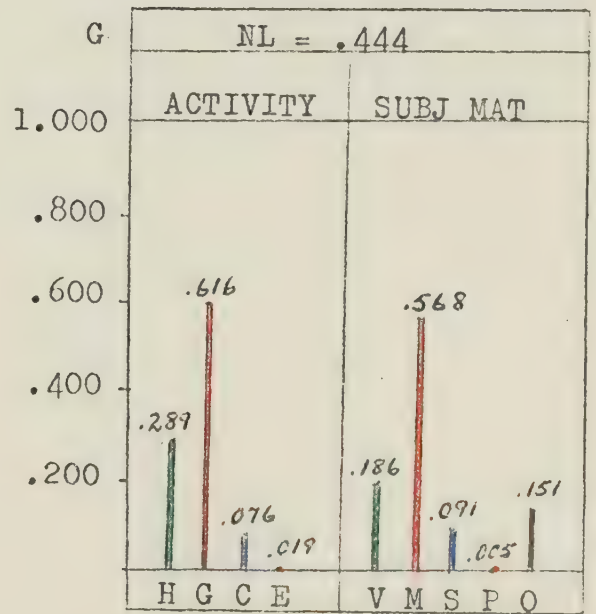
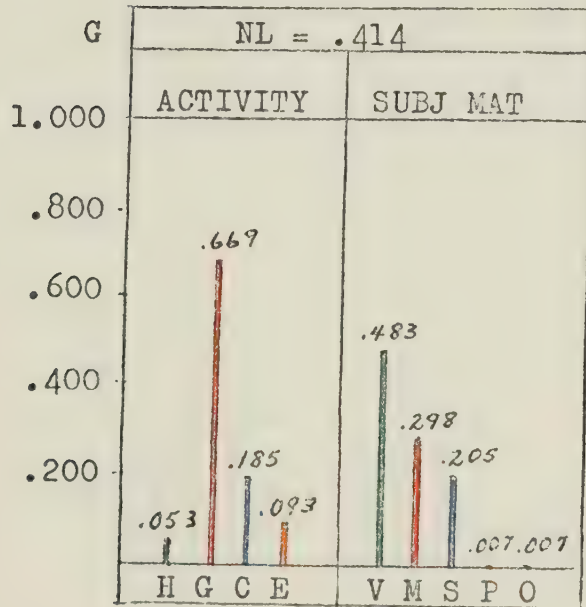
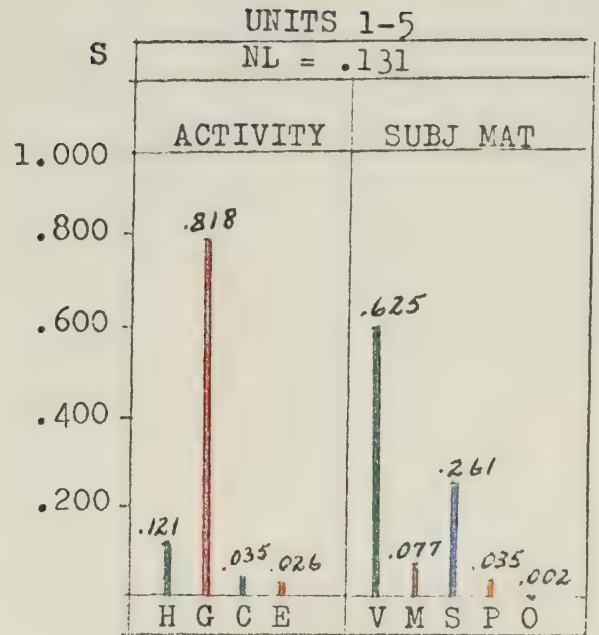
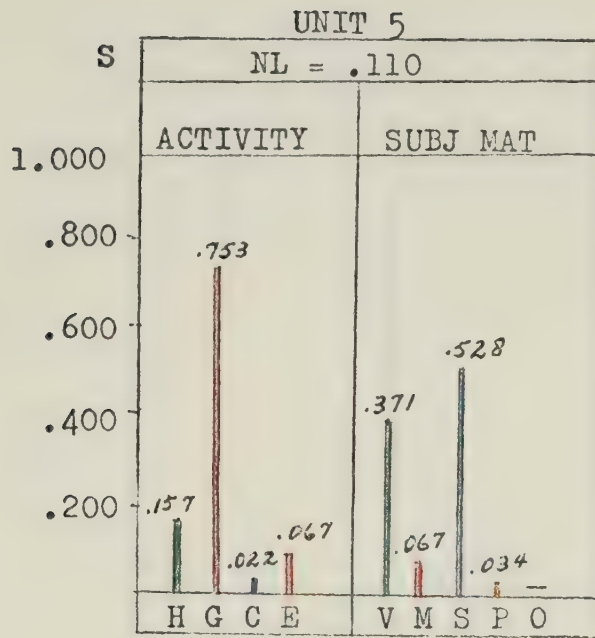
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б	b	о	o
в	v	п	p
г	h	р	r
г	g	с	s
д	d	т	t
е	e	у	u
є	je	ѣ	f
ж	ž	х	x
з	z	ц	c
и	y	ч	č
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ї	ji	щ	šč
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к	k	я	ja
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м	m		

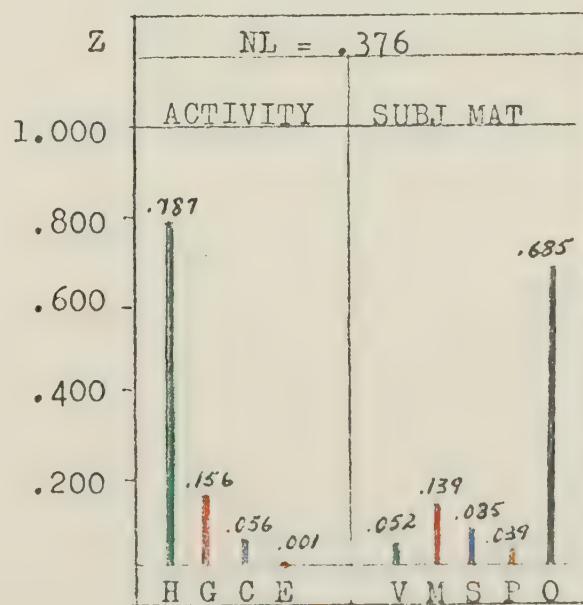
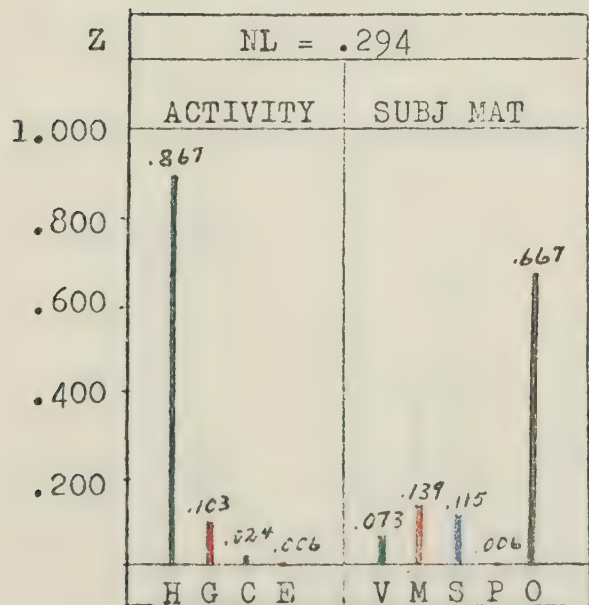
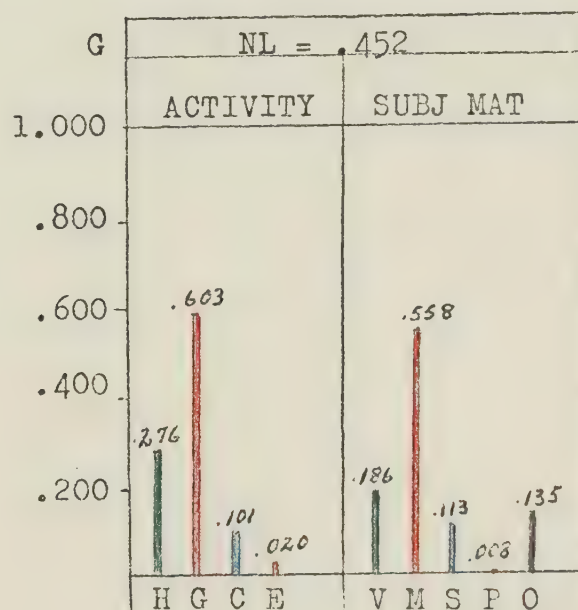
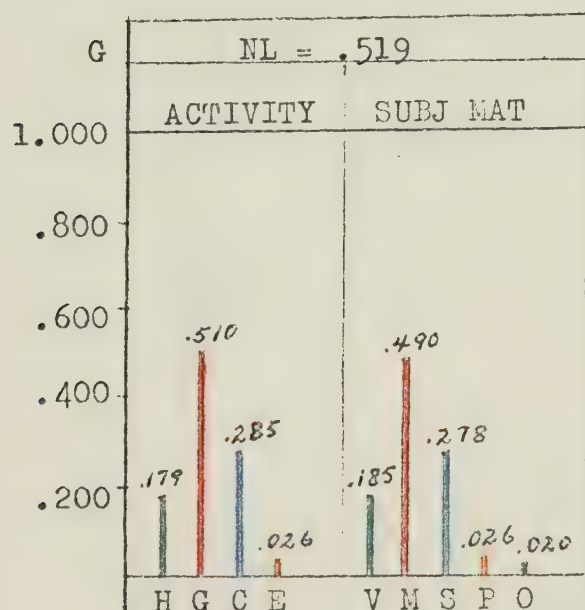
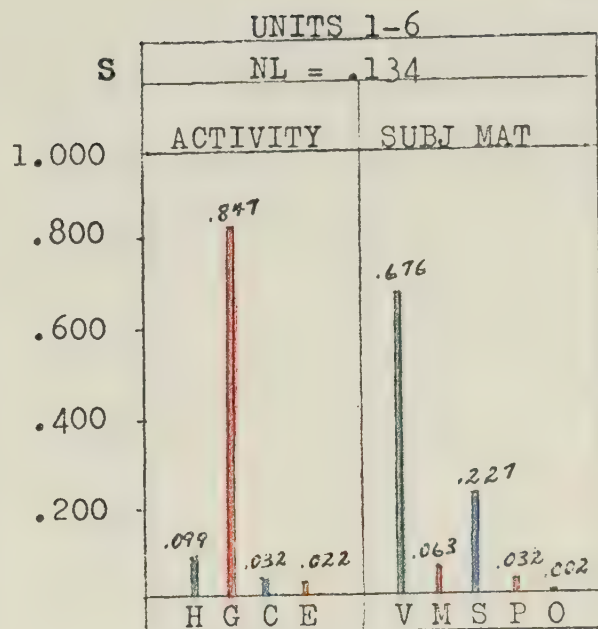
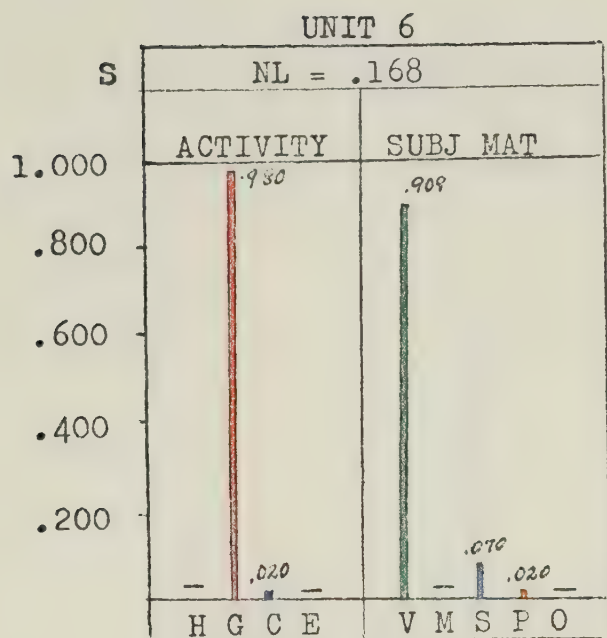


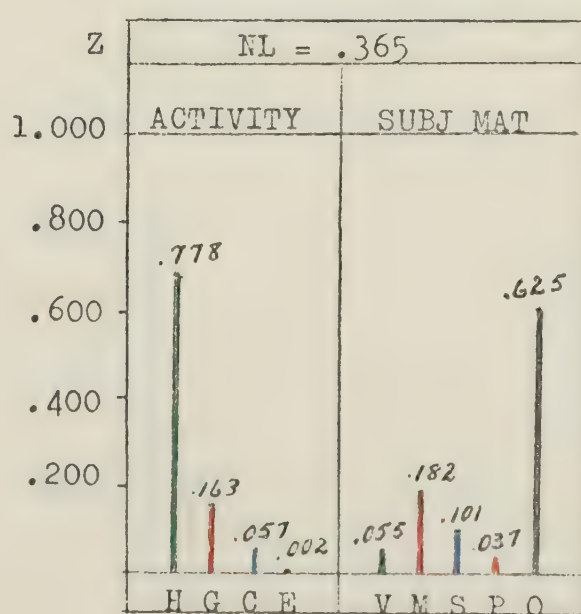
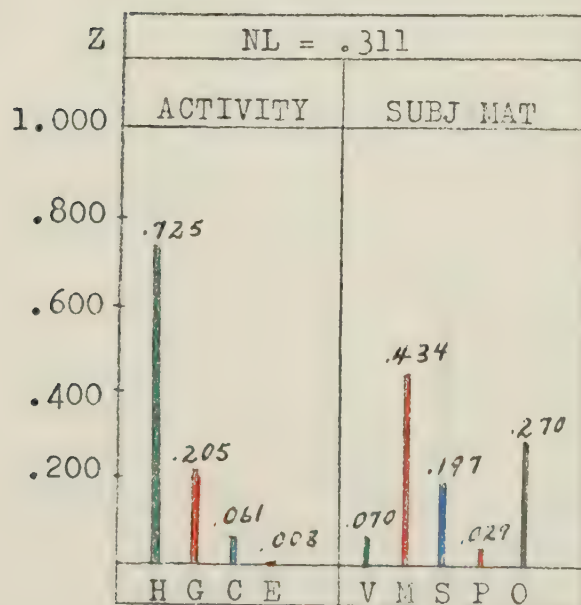
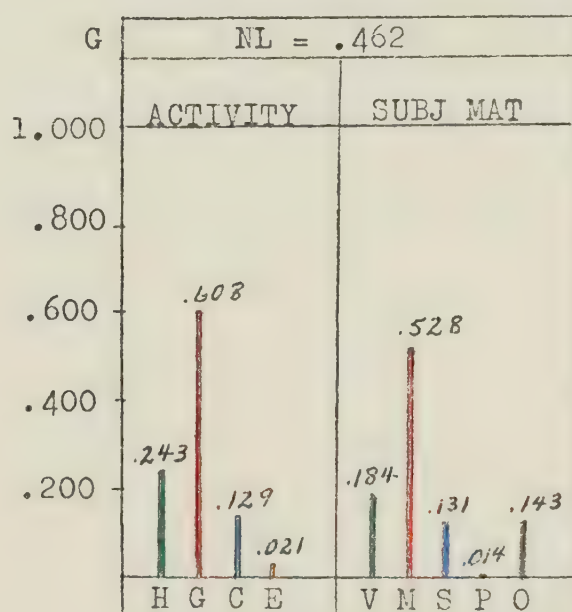
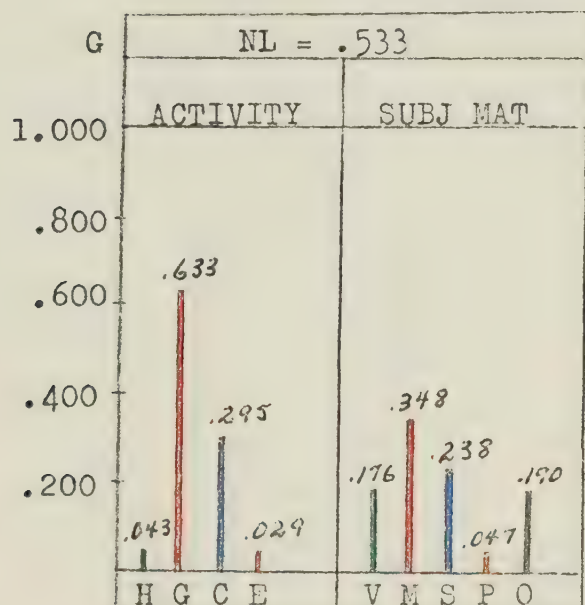
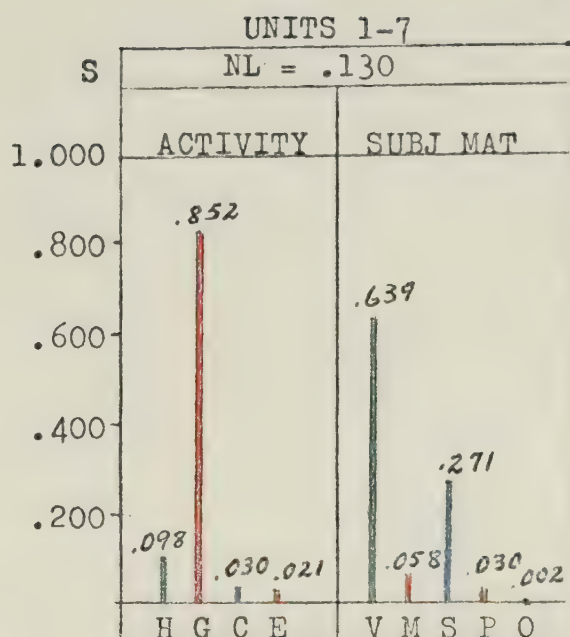
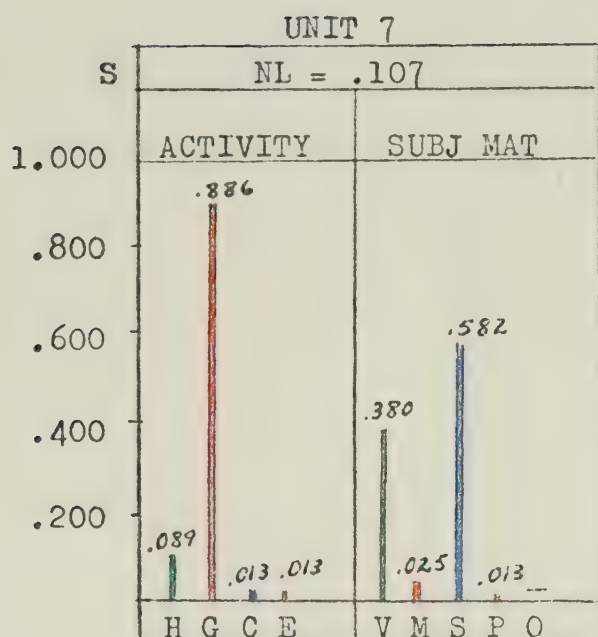


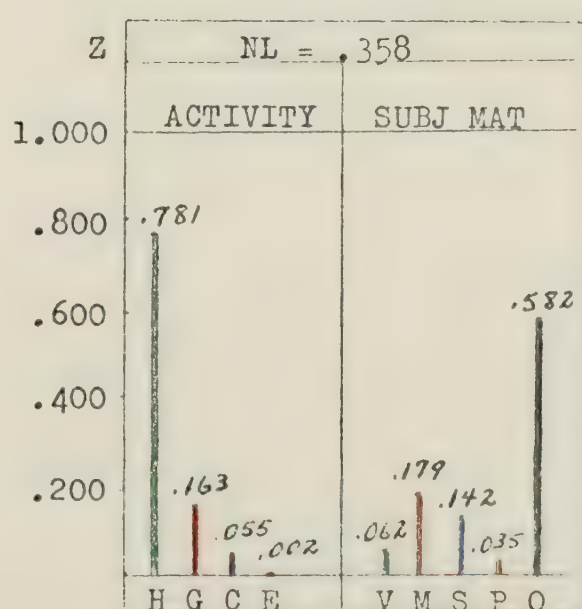
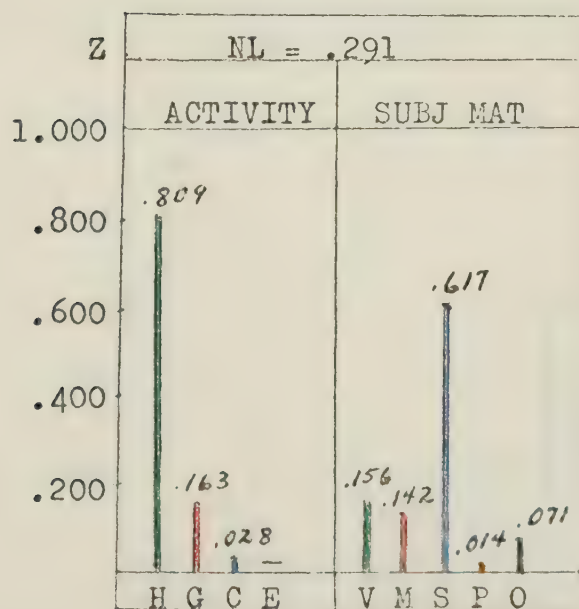
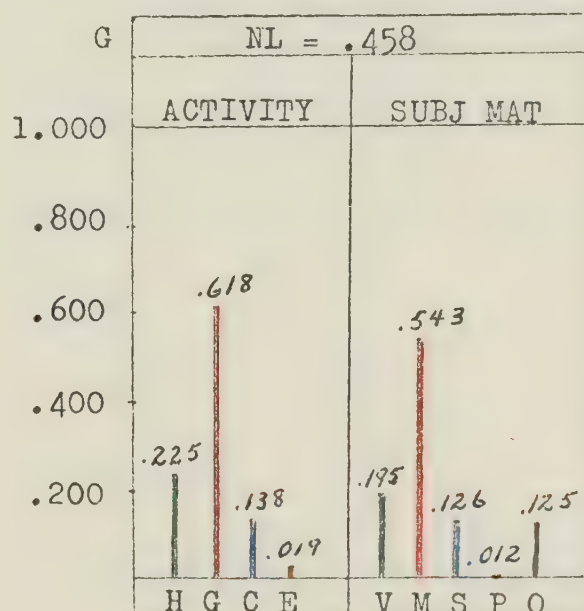
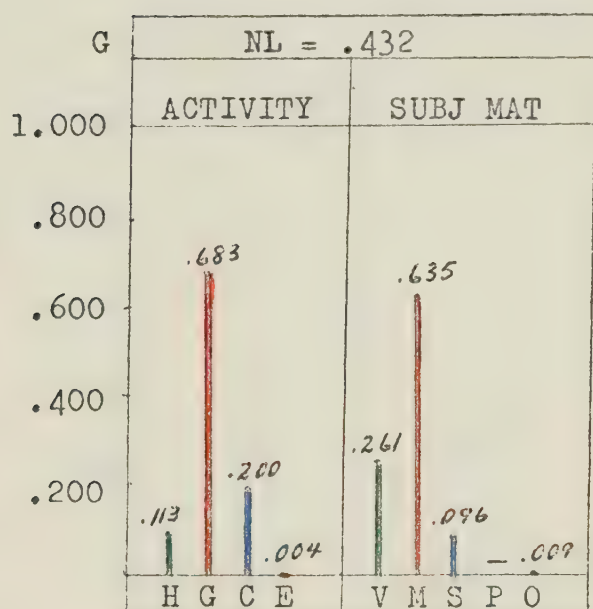
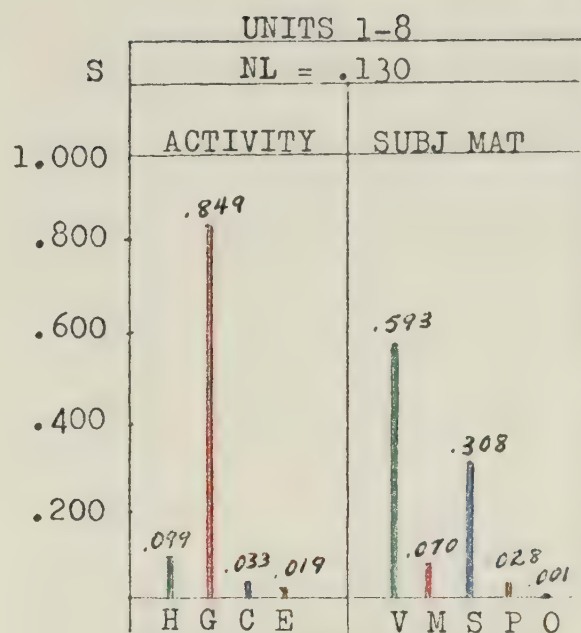
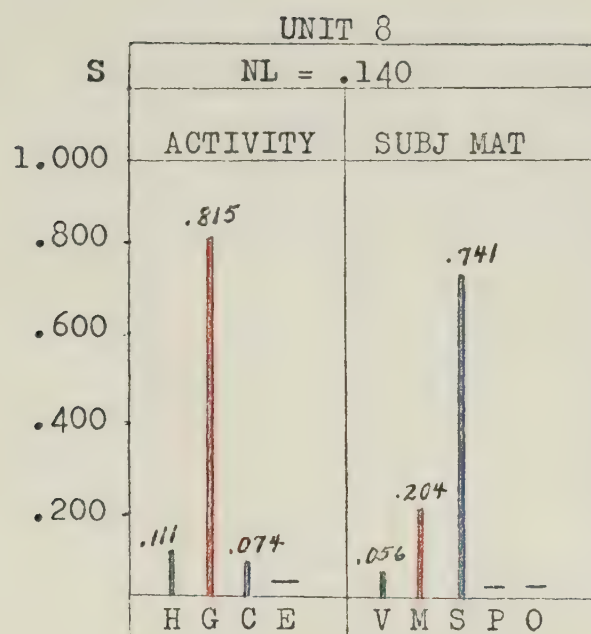


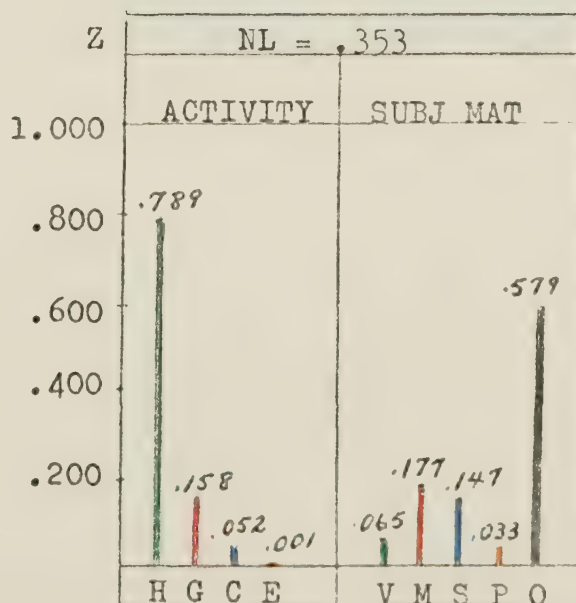
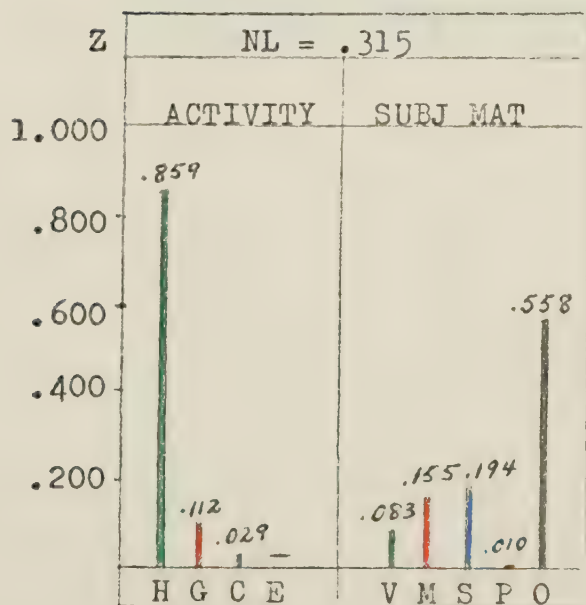
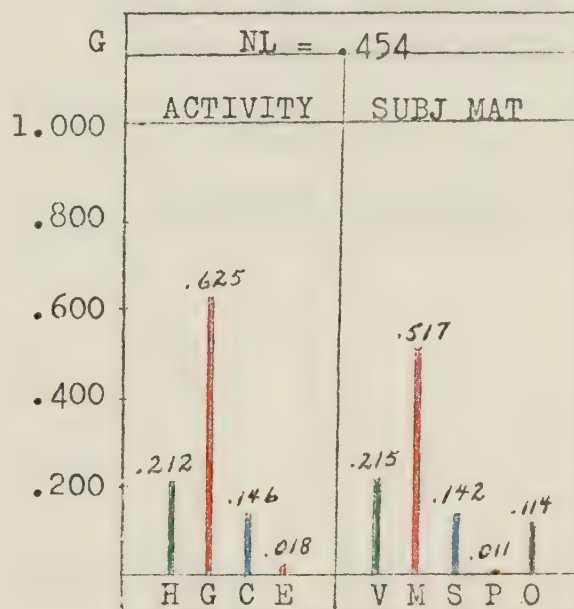
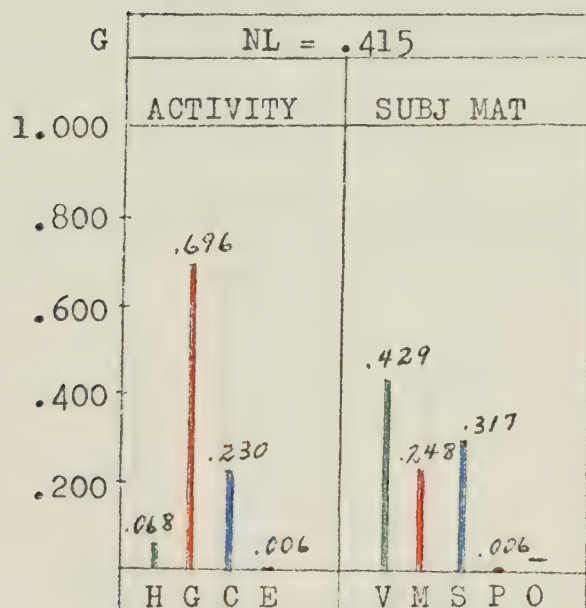
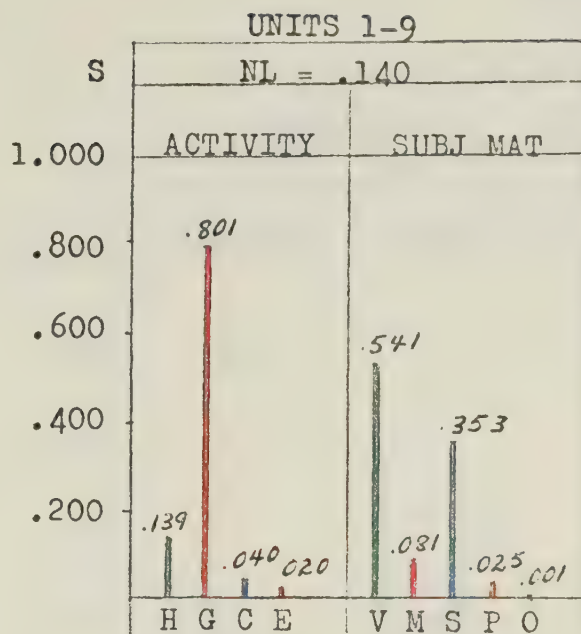
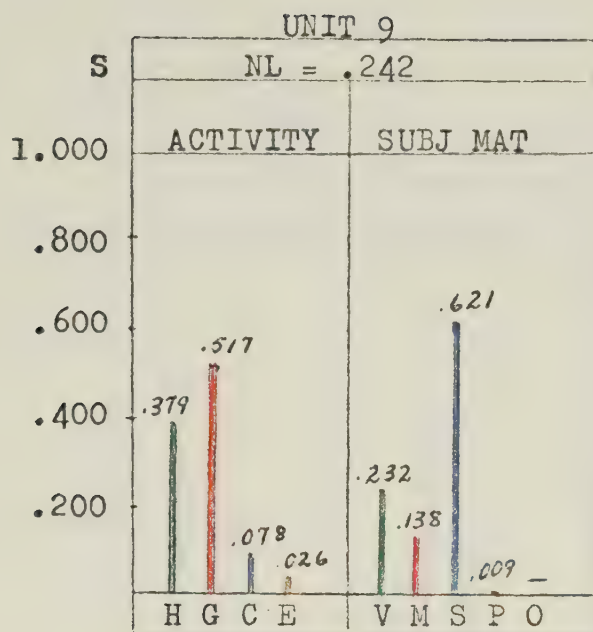


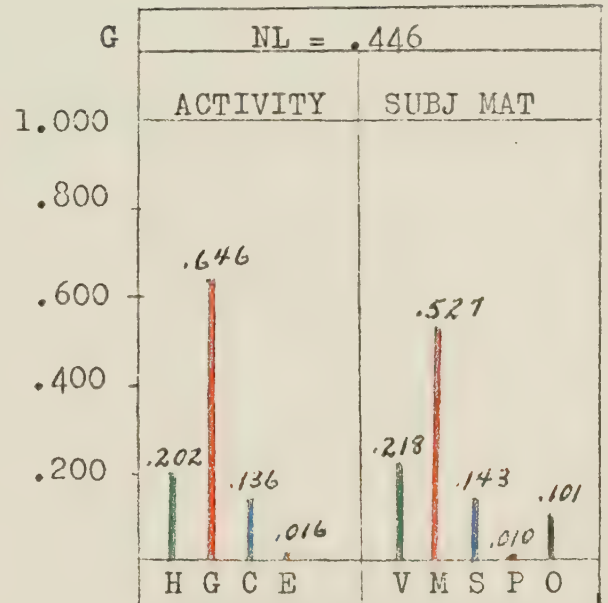
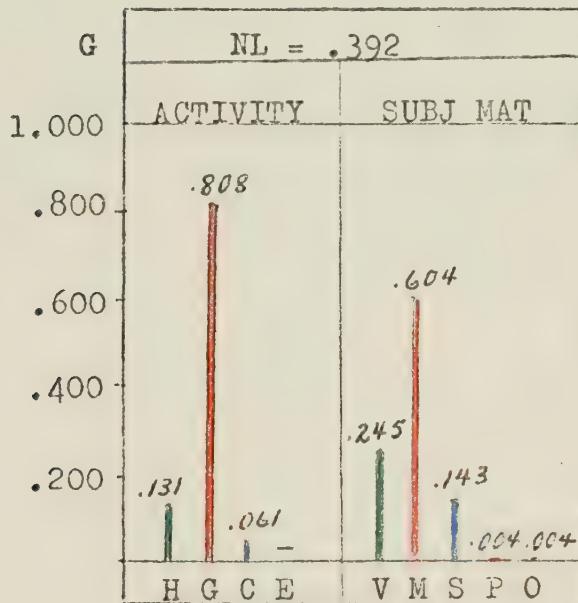
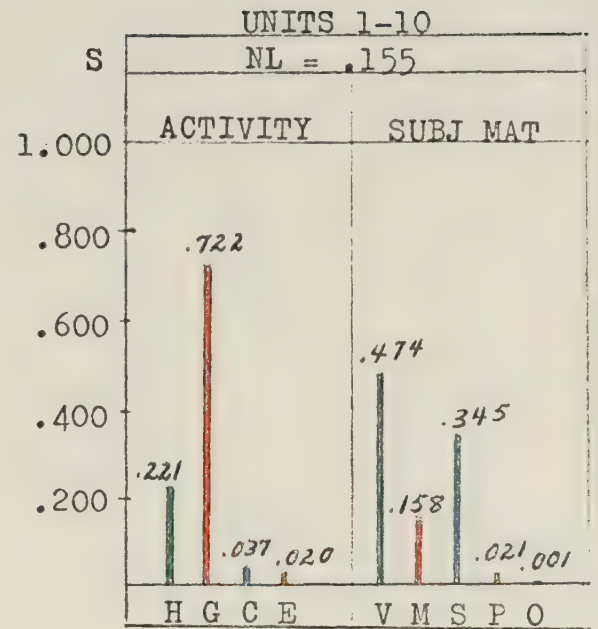
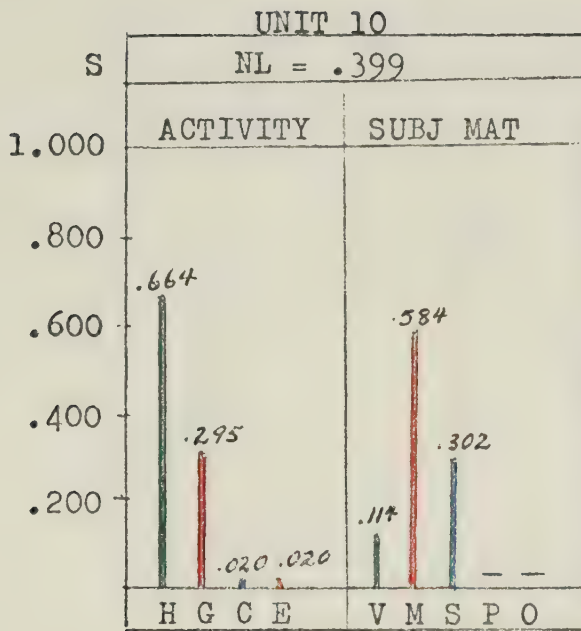


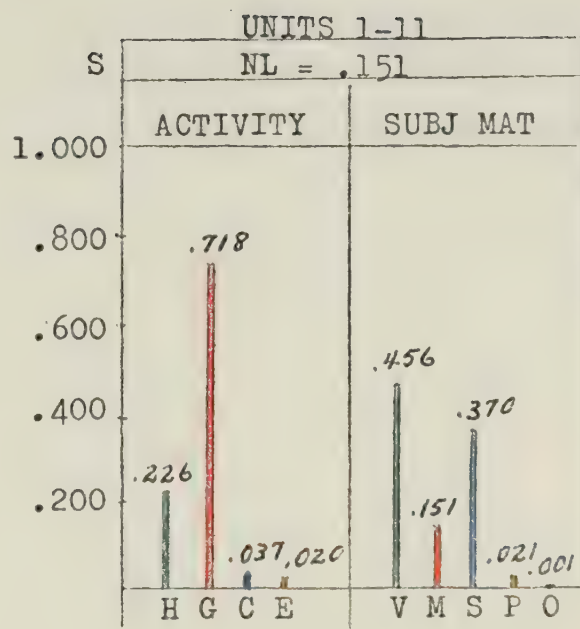
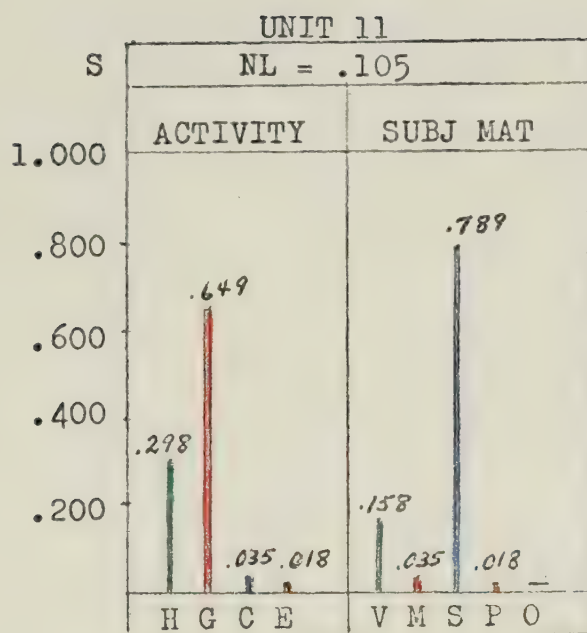


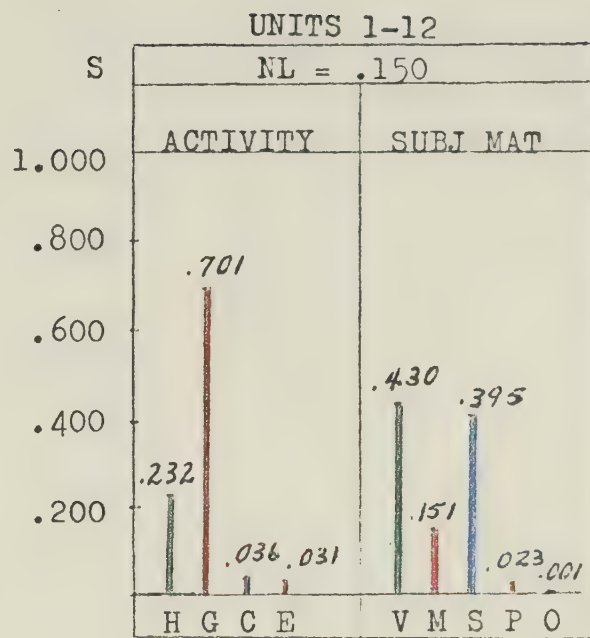
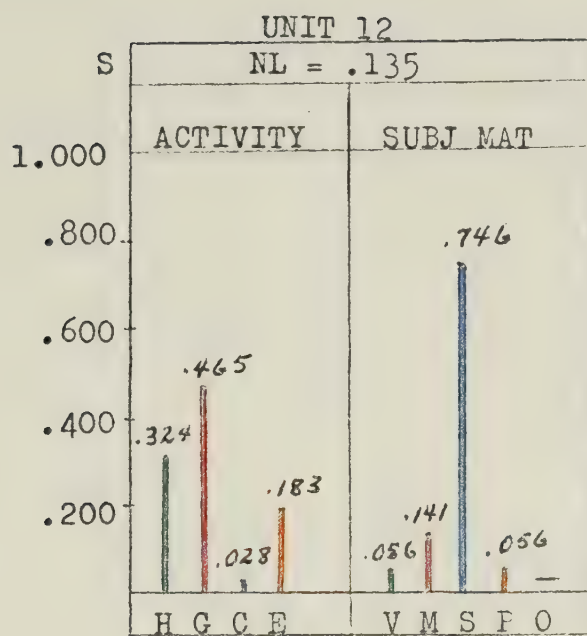


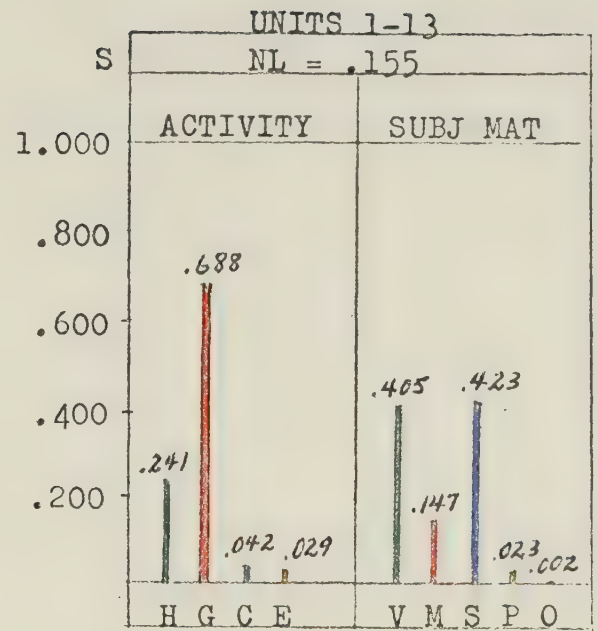
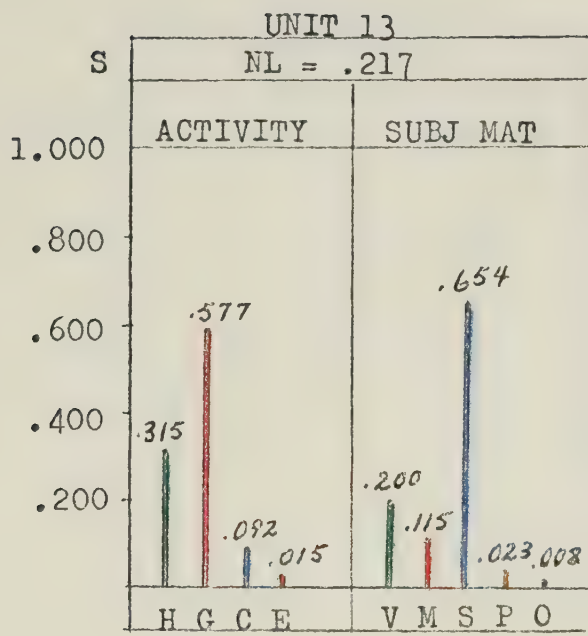


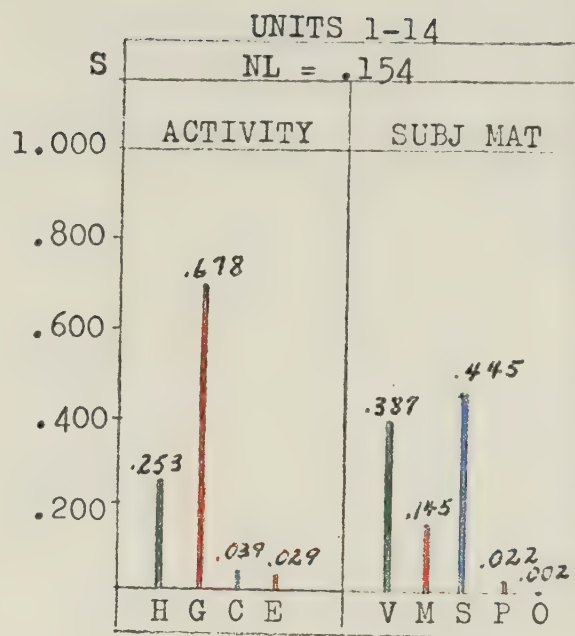
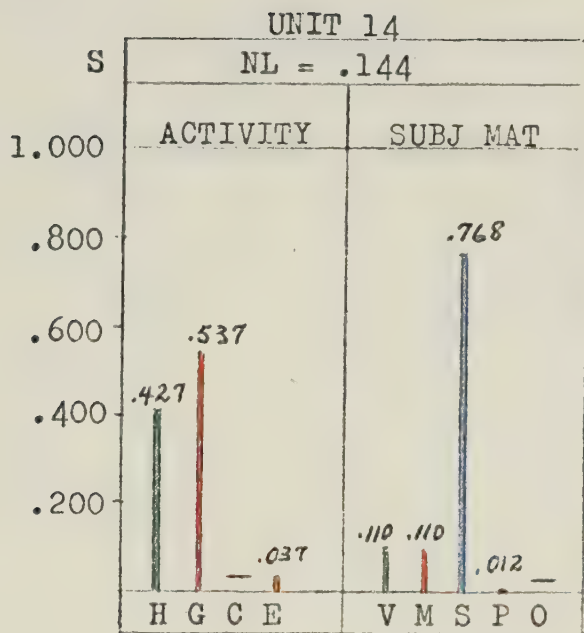


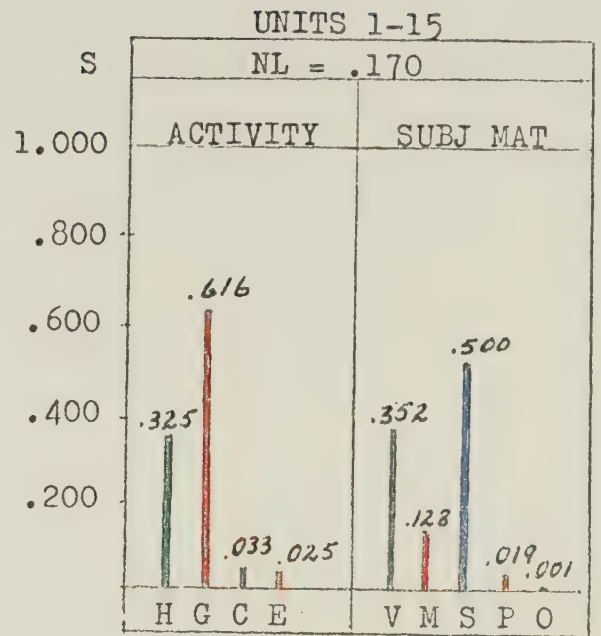
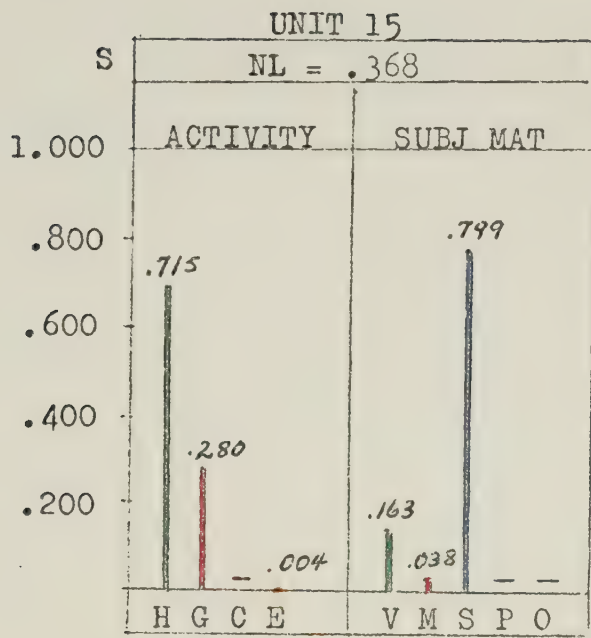












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